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Abstracts: Case Reports

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1. Challenging Case of Cardiac Arrest due to Pure Inferior STEMI with Bad Comorbidities: A Case Report

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Background: Cardiac arrest is the worst complication that can occur in ACS. Myocardial infarction causes conductivity disturbances of myocardial electric potential, thus often triggered malignant arrhythmias lead to cardiac arrest. However, malignant arrhythmias are not always present in all types of ACS, depends on the infarction areas, so that patient with pure STEMI inferior rarely presents with malignant arrhythmias caused by ACS itself.
Case illustration:65-Year-Old patient presented into ER with worsening squeezing chest pain since 5 hours before admission. He had any similar complaint before and ever refused to get CAG previously. He had uncontrolled hypertension and Type-2 DM. On physical examination, we obtained BP 125/70 mmHg, HR 72 bpm, RR 20 x/min, afebrile, and SpO_2 98%, crackles (+), with normal in other general physical examination. 12-lead ECG showed pure Inferior STEMI, no Posterior or RV involvement. Echocardiography showed LVEF 45% and diastolic dysfunction, RMWA (+), and moderate MR. He also had renal Insufficiency and mild hypokalemia. In ER, he suddenly got VF, so CPR and defibrillation were performed until he got ROSC then transferred to ICCU.
Discussion: An acute anterior MI, acute RV Infarction, or a genetic predisposition can lead into cardiogenic shock or sudden cardiac arrest. In this case, the cardiac arrest maybe was triggered by pure Inferior STEMI (without anterior involvement) and other predisposition factors, such as uncontrolled diabetes, pneumonia, older age, metabolic impairment, and proven regional wall motion abnormality with LV dysfunction.
Conclusion: Myocardial infarction can lead to any bad complications, which in this case showkdafied that acute pure Inferior STEMI with some bad uncontrolled comorbidites still can lead into sudden cardiac arrest.

Keywords: Cardiac Arrest, Inferior STEMI

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2. Are Furosemide and Nebulizer the Proper Treatment for Heart Failure and Community Acquired Pneumonia?: An Emergency Case-Report

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Background: Heart failure represents a major cause for increased mortality in community acquired pneumonia (CAP), contributing to more than 30% of deaths at long-term follow-up. CAP can exacerbate heart failure (85% cases), becomes a frequent triggering factor for decompensation of a chronic cardiac dysfunction. This case report exhibits everyday challenge found in patient with heart failure and CAP, as we know their incidence, timing, risk factors, and associations with mortality still remain unclear.
Case Illustration: A 54 years old male with uncontrolled hypertension history brought to ER due to shortness of breath. On examination GCS 15 apathetic, BP 140/80, RR 28, HR 98, SpO2 85%, subfebrile. He had recurrent dyspnea on mild activities. Clinically, the patient showed diaphoresis, rhonchi found bilaterally (worse on the left) on auscultation. ECG showed sinus rhythm HR 88 LVH strain. Then thoracic imaging performed cardiomegaly with pneumonia representation and the blood test performed WCC: 10.20 10^3/uL, neutrophil 81.8 %. Furosemide and nebulizer was given to patient. Fourth days after the treatment he was found to have improvement of clinical condition. The patient was showed RR 20-22, without adventitious lung sounds, and normal urine output.
Discussion: This patient exhibits severe dyspnea that was caused by uncontrolled hypertension history, with CAP and history of active smoking. After given treatment showed recovery sign after day 4. We considered treating this patient intensively is needed based on timing and clinical consideration.
Conclusion: We should considered careful monitoring dyspnea and urine output in all heart failure and CAP especially using furosemide combination with nebulizer, and proper treatment should be consider for good outcome.
Keywords: Heart failure, CAP, uncontrolled hypertension history, furosemide

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3. Reversible Cause of Marked Symptomatic Bradycardia Associated with Hyperkalemia: A Case Report

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Background: Hyperkalemia is a common and potential life-threatening with different types of presentation in the emergency department setting. Renal insufficiency can cause toxic effect of hyperkalemia on electrocardiography (ECG) abnormalities. The spectrum of ECG changes seen with hyperkalemia is known to process gradually with the increasing levels of potassium.

Case Illustration:A 58 year old man presented to emergency department with generalized weakness and nausea since 4 days ago. He had no documented shortness of breath, fever and no other recent complaints. He had history of diabetic for 3 years and was taking metformin and glibenklamid. Clinical examination in ED revealed slight decrease blood pressure of 90/60 mmHg, severe bradycardia (<35 beats/minute) with cold extermities. Laboratory investigations obtained before treatment revelaled hemoglobin 13.5 g/dl, urea 52 mg/dl, creatinine 2.51 mg/dl, natrium 134 mEq/L, potassium 6.65 mEq/L, normal cardiac marker Metabolic acidosis (pH 7.24 and base excess (BE) of -15.8) was noted through arterial blood gases analysis. ECG showed absent of P waves and junctional bradycardia. Echocardiography revealed concentric hypertrophy with ejection fraction 58 %. The patient received intravenous fluid, dopamine, 10 ml of intravenous 10 % calcium gluconate, 10 unit intravenous insulin with 10 % of dextrose, 142,2 mEq/L sodium bicarbonate. The patient was admitted and monitored. A repeat ECG showed sinus rhytm, his vital sign was stable with blood pressure of 110/80 mmHg, and potassium level of 3.6 mEq/L. Metabolic acidosis was improved with PH of 7.46 and BE 0.7. The patient was discharged 5 days after hospitalized.

Conclusion: Any patient with acute onset of bradycardia who presents to emergency department should be suspected of life-threatening hyperkalemia. Renal insufficiency can cause hyperkalemia secondary to metabolic acidosis. Moderate hyperkalemia can be presented as severe bradycardia and the conversion to sinus rhytm was achieved after correcting potassium level as demonstrated by the finding in our case.

Keywords : hyperkalemia, severe bradycardia, renal insufficiency

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4. Conn Syndrome: Identifying And Managing The Rare Combination Of Hypertension And Hypokalemia

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Background: Conn syndrome contributes to 5 – 15% of all hypertension cases. It has favorable prognosis through surgery making it necessary to identify and manage this disease to prevent the upcoming morbidity and mortality.
Case Illustration and Discussion: A 37-year-old male came to ER due to worsening muscle weakness since 3 days prior to hospital admission with no history of trauma, seizure, slurred speech, headache, projectile vomiting, or decreased consciousness. He had been hypertensive for 9 years. His mother died due to hypertension and hemorrhagic stroke when she was 45 years old. On physical examination, BP was 200/100 mmHg, motor strength was 2 with no sensory deficit, changing physiological or existing pathological reflex. ECG showed flattening T wave, U wave, and prolonged QU interval suggesting hypokalemia confirmed by laboratory examination (1.68 mmol/liter). We found uncompensated metabolic alkalosis, increased sodium (296 mmol/day) and normal potassium urine level (14 mmol/day). We started continuous infusion of potassium 10 mEq/hour through CVC, captopril 50 mg t.i.d, spironolactone 100 mg o.d. The combination of hypertension and hypokalemia suggests mineralocorticoid excess of which Conn syndrome is the most prevalent. Hypokalemia was suspected through physical and ECG findings confirmed by the electrolyte examination. Uncompensated metabolic alkalosis occured due to hydrogen ion loss through urine causing blood pH to alkalinize. Unenhanced abdominal CT scan confirmed our suspicion of Conn syndrome as we found increase left adrenal size. Continuous potassium infusion corrected serum potassium level but spironolactone and captopril were ineffective to control BP because the main treatment for Conn syndrome is adrenalectomy especially if the patients are younger than 40 years old. We therefore planned for referral to larger hospital to undergo complete hormone examination and surgery.
Conclusion: The combination of hypertension and hypokalemia should raise the suspicion of Conn syndrome. Considering its favorable prognosis, one should always remember to plan surgery for young and eligible patients.

Keywords: Conn syndrome; hypertension; hypokalemia

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5. Coronary Artery Ectasia With Clinical Manifestation Acute Myocardial Infarction: A Case Report.

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Background: Coronary artery ectasia (CAE) is one of the uncommon cardiovascular disorders with aneurysmal dilatation of coronary artery.CAE may predispose acute myocardial infarction due to coronary slow flow phenomena,thrombus formation or both with or without stenotic lesion.

Case description: A male 44 years old, came to Wahidin Sudirohusodo Hospital at March 13th 2018 with typical chest pain duration >30 minutes onset>48 hours, with coronary risk factor diabetes mellitus.Physical examination within normal limit, with electrocardiography show ST elevation at lead II,III,aVF,V7-V9, laboratory finding show increased troponin I,and HbA1c..Echocardiography show reduced EF (43%), with hypokinetic at inferior segmen.Patient diagnosed with STEMI inferoposterior onset>24 hours and threat conservatively with fondaparinux, DAPT,ACE inhibitor,statin and insulin. Coronary angiography performed 1 month later revealed diffuse ectasia at right coronary artery with slow contrast filling without significant lesion nor thrombus. MSCT Angiography show dilatation of RCA with calcified plaque, without stenosis. Patient threated conservatively with triple DAPT+warfarin for 1 month and DAPT for 1 year. Patient remain clinically stable without readmission during 1 year follow up.

Conclusion: CAE may have clinical manifestation as myocardial infarction, and need carefull evaluation to avoid unnecessary intervention.

Keyword: coronary artery ectasia,myocardial infarction,coronary slow flow

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6. **Two Dimentional Echocardiography Speckle Tracking in Constrictive Pericarditis With Concomitant Pulmonary Tuberculosis Infection**

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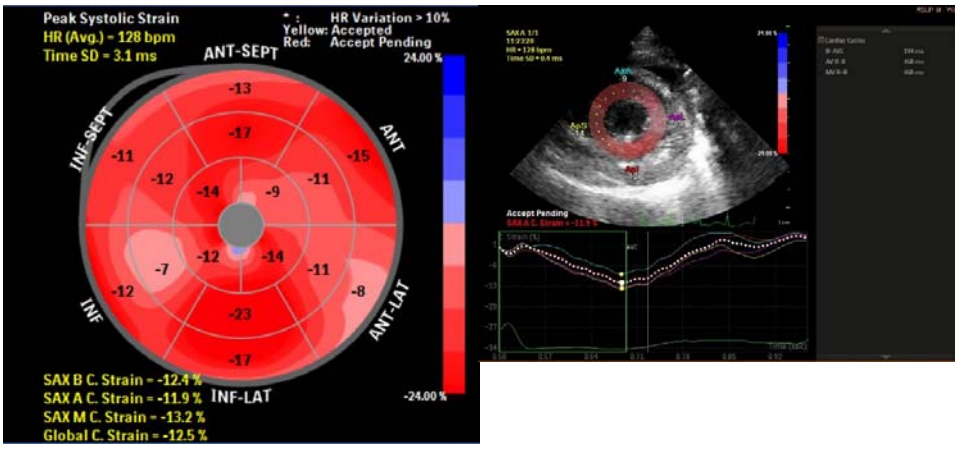
Background: Constrictive pericarditis is a form of heart failure in which the disease pericardium stiffens and restricts diastolic filling. Less common cause include rheumatologic disease, infection, malignancy, trauma and asbestosis.
***Case report** A women 20 years old with chief complaint dyspnoe on exertion and chest and history of cough and weight loss. Electrocardiography with results QRS alternans and non spesific T-wave changes Echocardiography found a septal bounce, pericardial thickening and ventricular septal shift. In 2D speckle tracking echocardiography showed no restrictive pattern found myyocardial movement. **Conclusion** in this case that 2-Dimentional speckle tracking echocardiography can distinguish between restrictive and constrictive patterns on echocardiography examination*
***Keywords:** Constrictive pericarditis, Pulmonary Tuberculosis, Septal bounce, pericardial thickeningt, 2-D echocardiography.*



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7. Ischemic Stroke Post Acute Coronary Syndrome and How to Deal With it?

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Background: Ischemic stroke is uncommon yet one of the most feared complications of acute myocardial infarction. Left ventricular thrombi early after MI in the setting of anterior wall infarction is considered the prevailing cause for MI-associated ischemic stroke. Here we present uncommon case LV thrombus induced by ACS and caused Ischemic Stroke.
Case illustration and discussion: A 60-year-old male was presented to Emergency room (ER) with chief complaints of pain in the chest 1 hour before ER admission. The patient had history of uncontrolled diabetes mellitus and ischemic stroke. The patient's vital sign was normal. From physical examination we found slight hemiparesis on the left side of the body. The laboratory, we found leukocytosis, increased of BUN-Creatinine, CKMB increased 3 times from normal value. The electrocardiogram showed ischemic on anteroseptal lead. The resting Echocardiography showed low EF at 26%, global hypokinetic, MR Mild, LV thrombus (+) 2.8 x 2.5 cm in size, TAPSE 1.1 cm. The patient was then admitted as NSTE-ACS. 20 hours after admission, the patient suddenly could not move his left side of his body and difficult to swallowing. CT-brain was exhibited large infarct area of right temporal. Patient was then consulted to neurologist. After 9 days of follow up, the patient remained clinically stable and was then discharged from the hospital.
Conclusion: All patients with ACS must be stratified and scored to predict the incidence of stroke. Echocardiography is recommended to exclude the presence of LV thrombus. Anticoagulants should be given to patients with LV thrombus with periodic lab monitoring and imaging.
Keywords: Acute Coronary Syndrome, Ischemic Stroke, LV Thrombus.

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8. Cephalgia as an Atypical Manifestation of Acute Coronary Syndrome: a Case Report

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Background: Myocardial infarction (MI) has several atypical manifestations one of which is headache that has been termed as "cardiac cephalgia". According to International Headache Society, cardiac cephalgia is described as exertional headache associated with the presence of acute myocardial ischemia and elevated cardiac enzyme.
Case Illustration:A 46-year old male was admitted to the ER with a chief complaint of sudden-onset headache for 1 hour while he was exercising. The character of the headache was throbbing, dull and radiated to all regions of the head. He also reported dizziness without any concomitant complaints. The complaint was slightly improved by rest and precipitated by activities. Patient stated that he never had similar complaint before. Patient is a non-smoker with a history of hypertension for 3 years controlled by 5 mg of amlodipine PO daily. Examinations in the ER showed BP of 160/100 mmHg, elevated Troponin I of 4.09g/dL and ECG displaying anteroseptal STEMI. Patient was then given 4x80mg aspirin PO, clopidogrel 4x75mg PO and 5 mg of sublingual ISDN before being transferred to undergo primary PCI.
Conclusion: Cardiac cephalgia is a rare manifestation of myocardial infarction and its' recognition is crucial to prevent ACS-related mortality

Keywords: Cardiac cephalgia, myocardical infarction, acute coronary syndrome, STEMI.

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9. A Case Report : ST-Elevation Myocardial Infarction in Adolescence with Early Cigarette Smoking Initiation

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[2] *Santosa Hospital Bandung Central, Bandung, Indonesi*

Background: It is estimated in 2019 that 34% of Indonesian population are cigarette smokers. Several studies shows cigarette smoking is a major risk factor for myocardial infarction.
Case illustration and discussion: A 16-year-old male patient was admitted to emergency department with chest pain 12 hours before admission, along with sweating. The patient was smoker, 4-10 cigarettes a day since he was 8-year-old.. The patient had no other cardiovascular risk factors. Physical examination showed blood pressure 80/40 mmHg, ventilation rate 26 times/min, pulse rate 120 beat/minute, and temperature 36.6 degree celcius. Initial electrocardiogram showed ST-elevation in lead II, III, aVF. Routine blood test showed no abnormality, cardiac enzyme Troponin-I qualitative was positive. Patient was diagnosed with ST-Elevation Myocardial Infarction (STEMI). Patient initially given saline 1500 ml, acetylsalicylic acid 320 mg, and ticagrelor 180 mg. No blood pressure improvement showed after saline loading. Patient received norepinephrine infusion 0.1 mcg/kgBW/min. Thrombolytic was not possible to be done and the patient was not transportable for primary percutaneous coronary intervention. Patient treated with fondaparinux sodium 2.5 mg for 3 days. Patient was discharged 5 days after being hospitalized. Subsequent coronary angiogram was performed later. Angiogram showed no abnormality in left main coronary artery, left anterior descending artery, left circumflex artery, or right circumflex artery.

The incidence of myocardial infarction in people aged <30-years-old is 2-6%. Angiogram shows no atherosclerotic plaque or thrombus. One case reported a post mortem angiography on a 25-year-old male showed coronary spasm on multiple site. Another similar case with immediate angiogram showed diffusely constricted vasospastic left anterior descending in 79-year-old patient admitted with radiating chest pain.

Conclusion

STEMI in this case was not caused by atherosclerotic plaque or thrombus. Most possible mechanism of infarction in this patient is coronary spasm, which risk was raised by cigarette smoking initiation at young age.

Keywords: myocardial infarction, coronary spasm, cigarette smoking

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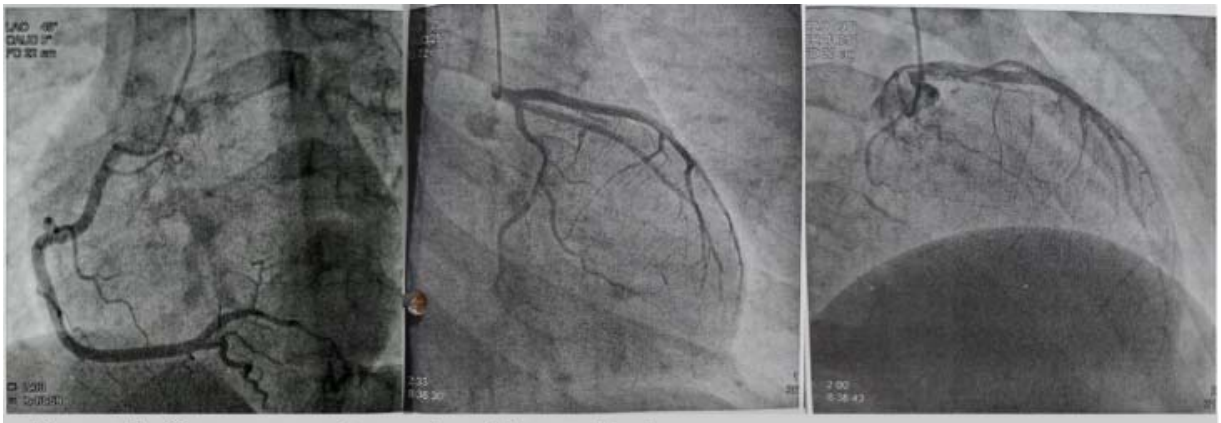

Figure 2. Coronary angiography of the patient

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10. Brugada Syndrome Unmasked by the Full Stomach Test in an Asymptomatic Patient with Family History of Sudden Death: A Case Report

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Background: Brugada syndrome (BrS) is an inheritable syndrome characterized by right bundle branch block and persistent ST-segment elevation in the right precordial leads (V1-V2) with increased risk for sudden cardiac death (SCD) due to ventricular tachyarrhythmia. BrS is the one of the leading causes of SCD in young adult without structural heart disease.
Case Presentation: A 40-year-old man came for medical check-up at Pupuk Kaltim Hospital with no complaint. There was no history of chest pain, palpitation, dyspnea, syncope, or cardiac arrest. He had a history of paternal unexplained sudden death at 35 years. Electrocardiogram (ECG) revealed type 2 Brugada ECG pattern with saddleback ST-segment elevation ≥2 mm in V2. Full stomach test was performed on the patient. He was asked to take a large meal within 20 minutes at lunch. ECG was performed 30 minutes after lunch which revealed type 1 Brugada ECG pattern with coved ST-segment elevation ≥2 mm followed by negative T wave in V1-V2. He was then referred to electrophysiology capable hospital to further risk stratification and management. He was advised to avoid having large meals, fever, alcohol, and certain drugs. Type 1 Brugada ECG pattern with coved ST-segment elevation ≥2 mm followed by negative T wave in ≥1 leads V1-V2 is required to establish the definite diagnosis of BrS. The pattern can be spontaneous or concealed, sometimes unmasked by large meals, fever, alcohol, and certain drugs. The full stomach test is a simple method for identifying patient at risk of BrS particularly at tertiary hospital. This test could lead to increased vagal tone and causes augmentation and morphologic changes in ST-segment elevation which may reveal type 1 Brugada ECG pattern in concealed BrS.
Conclusion: The full stomach test can be done easily at tertiary hospital with limited electrophysiology facility to unmask Brugada ECG pattern. Once diagnosed with BrS, further risk stratification and management are needed to prevent SCD. BrS patient should be advised to avoid large meals, fever, alcohol, and certain drugs.
Keywords: Brugada syndrome, full stomach test, sudden death

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11. Delusional in a Female Patient with Sacubitril/Valsartan Therapy: A Case Report with Literature Approach

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Background: Sacubitril/valsartan was the treatment of heart failure with reduced ejection fraction (HFrEF). Research has revealed that inhibition of neprilysin can have more than a cardiovascular target. We report psychological manifestations in a patient on Sacubitril/Valsartan therapy.
Case illustration and discussion: A 33 years old female had been diagnosed HFrEF due to myocardial infarction. The patient had been receiving sacubitril/valsartan (SV) therapy after seven months there was no significant improvement in symptoms of heart failure, with optimal treatment of beta blockers and ARBs. We decided to start SV 24/26 mg through the mouth of two times a day. We observed the patient after using SV and within one month there were no rehospitalisation or symptoms of hypotension. After 6 weeks in SV therapy, the patient visited the doctor, and we got a delusional event in the patient. The patient had no previous psychological symptoms. The laboratory tests and CT head scan results were normal. We decided to reduce the SV dose to 12 / 13mg by mouth twice a day, the patient did not have the symptoms as before, either hypotension or delusions. In one study was shown that bradykinin, an initial mediator of inflammation, increased intracellular Ca^{2+} in astrocytes and adjacent neurons. The mechanism results in the production and release of reactive oxygen species **(**ROS) in the brain. The mechanism indicates the possible therapeutic effect of SV with the appearance of the patient's delusional event.
Conclusion: Bradykinin can be a factor in the production and release of ROS in the brain, which is a possible cause of the therapeutic effect of SV on the occurrence of delusions in patient. There is no definitive explanation of the effect of SV as HFrEF therapy on the pathophysiology of delirium.

Keyword: *sacubitril/valsartan, HFrEF, delusional, bradykinin, mediator of inflammation.*

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12. Cardiogenic Shock in Right Ventricular Myocardial Infarction: A Challenging Management in Rural Public Hospital.

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Background: Cardiogenic shock (CS) is caused by severe impairment of myocardial performance that results in diminished cardiac output, end-organ hypoperfusion, and hypoxia. Recognition and appropriate management of CS complicating right ventricular myocardial infarction (RVMI) is essential and there might be a challenge when the facility is limited.
Case Illustration and Discussion: A 46-year-old man admitted to the emergency room with typical angina 2 hour earlier, accompanied by anxiety and diaphoresis. He was a heavy smoker. At admission, patient was somnolence, BP was 70/30 mmHg, jugular distension was visible, sign of hypoperfusion in both extremities. The ECG showed sinus rhythm, heart rate of 65 bpm, prolonged PR interval (32 ms), ST-Elevation in inferior leads and right-sided ECG found significant ST-Elevation in V3R-V4R. The patient was diagnosed with CS due to RVMI and first degree of atrioventricular block. The fluid loading was given with 500 ml of saline, dobutamine 5 mcg/kg/min, aspirin 160 mg, clopidogrel 300 mg, and atorvastatin 80 mg. In the presence of cardiogenic shock without signs of LV failure, ST elevation in lead III > lead II and >1 mm ST segment elevation in the V4R lead which has 100% sensitivity, 87% specificity, and 92% predictive accuracy for RVMI, a diagnosis of RVMI is highly probable. This probability leads us to a suitable treatment which mentioned before. Despite a limitation of the facility, the patient was referred to tertiary facility safely to receive reperfusion therapy.
Conclusion: Holistic clinical exam and right-sided ECG should be done in all patients presenting with an acute inferior myocardial infarction. This simple approach may facilitate early identification and risk stratification of patients with cardiogenic shock complicating RVMI. The administration of dobutamine and fluid loading along with other drugs mentioned can be used to stabilize the patient before receiving reperfusion therapy.

Key Words: cardiogenic shock, RVMI, LVMI, rural hospital, dobutamine.

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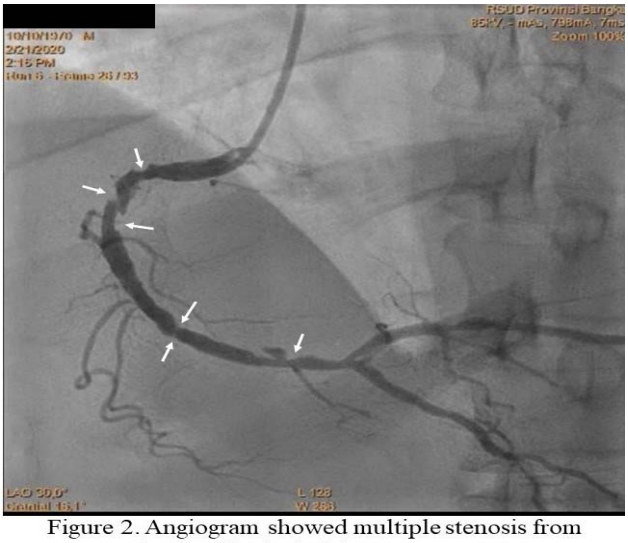

Figure 2. Angiogram showed multiple stenosis from proximal to distal of Right Coronary Artery

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13. Managing Acute Pulmonary Edema in Congestive Heart Failure with Multiple Comorbidities: A Case Report

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Background: Acute pulmonary edema (APE) is a life-threatening complication of acute heart failure (AHF) with the prevalence of 75-83%. This case report highlights the management of APE with diabetes mellitus (DM), hypertension (HT) and chronic kidney disease (CKD)
Case Illustration :A 63-year-old male came to the ER with worsening dyspnea for 4 days. Dyspnea on effort, paroxysmal nocturnal dyspnea, bilateral lower extremities pitting edema and decreased urine production was documented. He has history of uncontrolled HT and DM. Laboratory results showed serum creatinine of 5.2 mg/dl with eGFR of 10.9 ml/min/1.73m^2. He was clinically diagnosed with APE, Congestive heart failure cf III e.c. Ischemic Heart Disease-Hypertensive Heart Disease, emergency HT, CKD stage V e.c. Diabetic Nephropathy, type 2 obese DM and anemia in CKD. He was eligible for emergency hemodialysis (HD) and should be given combination therapy of intravenous (IV) loop diuretic and IV nitrate. In the absence of both options, he was given IV furosemide with initial dose of 40 mg bolus and continuous dose of 5 mg/hr. Daily fluid balance, urine output and fasting plasma glucose was monitored. After 6 days of treatment, he was discharged with minimal congestion and optimized glycemic index and blood pressure. An interesting aspect of our case is the adjusted loop diuretic dose upon unavailability of HD facility and IV nitrate in the treatment of APE with multiple comorbidities. Several studies and guidelines have stated that combination of IV loop diuretic and nitrate have synergistic effect to provide rapid decongestion and symptomatic relief for APE in AHF and CKD with HT setting. Research by Čerlinskaitė *et al.* suggest this combination therapy also reduce the risk of adverse events and mechanical ventilation. SW Oh *et al.* also stated that continuous dose of IV furosemide was found to be more effective in increasing urine output.
Conclusion: In the absence of HD facility and IV nitrate, personalized treatment strategies with dose adjusted loop diuretic is found sufficient in providing decongestion and symptomatic relief in APE with AHF and CKD with oliguria.

Keywords
Acute pulmonary edema, Acute heart failure, Chronic Kidney Disease, Loop Diuretic

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14. Patient With Acute Cardiogenic Pulmonary Edema Patients (ACPE): When Do We Need Non-Invasive Ventilation?

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Background : Acute cardiogenic pulmonary edema is a high mortality condition that must get fast and appropriate treatment. The use of non-invasive ventilation (NIV) can improve respiration and cardiovascular function earlier and can correct the condition of hypoxemia and respiratory distress quickly.
Case Illustration: A 55-year-old man came with complaints of severe shortness of breath. The patient has a history of heart disease but not routinely controlled. Physical examination found BP125/69, HR140x/min, RR32x/min, saturation 75%, and obtained fine wet crackles throughout the lung field. ECG obtained anterior Old Myocardial Infaction (OMI),chest x-ray obtained cardiomegaly with pulmonary edema. Laboratory results showed an increase in BNP (6634 pg/ml), BGA results obtained hypoxemic respiratory failure with PO_2 44.9mmhg and arterial lactate 5.8mmol/L. Patients were diagnosed with anterior OMI with ACPE with hypoxemic respiratory failure and then given diuretic, nitrate and NIV (CPAP with PEEP 5cmH_2O). Evaluation 3 hours post-therapy showed clinical improvement, PO_2 61mmHg, O_2 saturation 92% and lactate decreased by 1.6 mmol/L. NIV therapy was then continued and evaluate BGA revelaed 6 hours is PO2 106 mmhg saturation 98.5%. ACPE is one of causes of high respiratory failure. The diagnosis is based on clinical and diagnostic criteria. NIV is a method used to put positive pressure into the lungs without invasive devices. There are several NIV modes that can be used the most often is CPAP. In this patient the CPAP mode is chosen where the patient is given constant PEEP which aims to open alveoli at the end of expiration thereby increasing the surface area for oxygen diffusion. In these patients CPAP administration increased therapeutic success along with definitive therapy.
Conclusion: Rapid and appropriate management is needed in the management ACPE. Giving NIV in these conditions increases the success of therapy, especially in hypoxemic conditions.
Keywords: Acute cardiogenic pulmonary edema,NIV

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15. T Wave Inversion Mimic Acute Coronary Syndrome In Intracranial Hemorrhage Patient: A Case Report

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Background Intracranial Hemorrhage particularly with subarachnoid hemorrhage can induce cardiac injury which presents as elevated concentrations of cardiac biochemical markers and abnormality of electrocardiographic (ECG) which may be indistinguishable with acute coronary syndrome.
Case report The author present patient with T wave inversion in precordial leads with history of headache with pulsate sensation in right head for six hour and projectile vomiting one time. However she didn't has history of chest pain, nausea, or diaphoresis. Base on Cerebral computed tomography (CT) suggested Intracranial Hemorrhage, Subarachnoid Hemorrhage, and Non-communicant Hydrocephalus.
Conclusion ECG changes could point to a primary cerebrovascular pathology. It's implicated with autonomic dysregulations by hypothalamic stimulation and excessive sympathetic stimulation by massive catecholamine circulation.
Keyword: Intracranial Hemorrhage, T Wave Inversion, Acute Coronary Syndrome.

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16. A Case: Optimal Treatment of Pregnancy with Rheumatic Heart Disease

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Background: The number of women who have a pre-existing cardiovascular disease (CVD) or develop cardiac problems during pregnancy is increasing, and it is the leading cause of non-obstetric mortality during pregnancy. It is important that obstetric, anesthesiologists, cardiologist, remain aware of the disease, its complications and management of valvular lesions throughout the birthing process.
Case Ilustration : In this case study, a 27 years old woman presented with dyspnoe with chest pain and pulsate heartbeats. She also experienced abdominal pain that referred through her hip. She's in 39th weeks of pregnancy and diagnosed since 5 years ago. She presented with full consciousness, BP 130/70 mmHg, pulse 110 bpm regular and the temperature was 37^{0}C. In physical examination was found thrill and systolic murmur. Echocardiography concluded severe mitral regurgitation, mild mitral stenosis, dilated LA and LV with 76% ejection fraction.
Conclusion: It has been reported, a 27 years old expecting woman is in 39th week of pregnancy and diagnosed with heart failure et cause rheumatic heart disease. The most prominent principal of management pregnancy with heart disease is early findings and reduce excessive cardiac loads from the first trimester until puerperium phase. All the efforts should be intended to prevent increased cardiac loads and secondary infection. Furthermore, treatment on this patient include the patient is permitted to get pregnant again with the if her heart disease has been treated and requires close observation from the cardiologist and obstetrician. The patient was also suggested to perform mitral valve repair/mitral valve replacement because usually, the outcome of surgery is still better compared to medication therapy. The outcome is closely related to disease severity, comorbidity, hospital ability/facility, medical staff ability and team cooperation
Keywords: ***Rheumatic Heart Disease, Cardiac Disease in Pregnancy, Mitral Valve Regurgitation***

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17. Hyperkalemia in Latent Autoimmune Diabetes in Adult: A Case Report in a Rural Area in Indonesia.

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Background. Hyperkalemia is unusual in the general population, reported in less than 5% of the population, worldwide, but may affect up to 10% of all hospitalized patients. It is a potentially life-threatening electrolyte abnormality and may cause cardiac electrophysiological disturbance in the acute ill patient. Latent autoimmune diabetic in adult is due to cellular-mediated autoimmune destruction of pancreatic β-cells. Hyperkalemia is known that Diabetes Ketoacidosis that mainly caused by type 1 diabetes may disrupt potassium shifting from in to out cells. Here we perform a case about the emergency therapy in hyperkalemia in latent autoimmune diabetes in adult.
Case illustration and discussion. We present male, 35 years old, came to our hospital with generalized weakness. he vomited, anorexia, nausea and confusion. The electrocardiography showed “tall T”, hyperglycemia, hyperkalemia, hyponatremia, metabolic acidosis, and C-peptide was below the normal limit. We treated with normal saline, calcium gluconate, insulin, and natrium bicarbonate. On the next day, the general condition was better.
Conclusion. The management of hyperkalemia is an interprofessional because of its potential to induce cardiac arrest and severe weakness. Once hyperkalemia is diagnosed, the primary condition must be treated. Prompt and proper treatment can save life. Patient can have an excellent prognosis.
Keywords: Hyperkalemia, Latent Autoimmune Diabetic in Adult, Diabetes mellitus.

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18. Chest pain and Bradyarrhythmia manifestation in Dengue Fever : A Rare Case Report

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Background: Dengue fever still become serious concern in Indonesia. It can develop with serious cardiovascular problem that vary widely such as arrhythmias. However, early detection is still difficult in some facilities.
Case: Male, 29 years old came to ER with chief complaint of fever. He suffered 3 days of fever, general weakness, and gastric pain. He was admitted with diagnose dengue fever. First day of admission, he suffered left chest pain spreading to left arm, shortness of breath and cold sweat. ECG showed sinus rhythm with non specific T inversion of V1-V5. He received nasal oxygen and fasorbid pump 0,5mg/ hour immediately in ICU. Proper medication of dengue fever was given such as crystalloid fluid, paracetamol infusion and proton pump inhibitor injection. Chest pain was reduced to minimal. ECG developed to bradyarrhythmia rhythm 40-70 BPM and better T wave conversion. Echocardiography and treadmill test were normal. Holter showed bradyarrythmia ranged 37-78 BPM included 13 hour 4 minutes of bradycardia episode. Patient developed better condition with supportive management. Last ECG showed sinus rhythm with no T wave abnormality and no more cardiovascular complaint. Dengue fever can develop with serious cardiovascular problem. Clinical manifestation of cardiac involvement can vary widely such as rhythm abnormality. However, the pathophysiology of cardiac manifestation in dengue fever is poorly understood. The management therapy are supportive for cardiac event, cautious fluid resuscitation and symptomatic therapy. This patient got better condition and completely recover with no cardiovascular abnormality finding.
Conclusion: Dengue fever still become serious concern in Indonesia. It can develope to various cardiovascular problem . A high index suspicion is needed to identify cardiac involvement early. Because dengue fever is self limiting disease, proper medication such as supportive treatment and observation is more recommended.
keyword : cardiac manifestation, dengue fever, arrhytmias

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19. Left Ventricle Aneurysm Mimicking Acute Anterior ST Elevation Myocardial Infarction: How Important of Serial Electrocardiography

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Background : Left ventricle aneurysm (LVA) is rare complication after acute myocardial infarction. It is manifested electrocardiographically by varying degrees of ST segment elevation, which may be mistaken with acute ST elevation myocardial infaction (STEMI). Serial electrocardiography (ECG) is a simple modality to differentiate diagnosis of LVA with acute STEMI.
Case illustration: A 65-year old male was referral with diagnosed anterior STEMI with chief complaint typical chest pain since 12 hours ago. He also had prior heart attack 2 years ago. Vital sign revealed BP 122/80 mmHg, HR 100 bpm, RR 16 bpm and normal saturation. Heart sound was normal and no sign of heart failure. Referral ECG showed ST elevation in lead V2-V6 with deep Q patologis in lead V2-V6. Serial ECG in the ER showed no evolution with persistent ST elevation, absence of reciprocal lead and T/QRS ratio < 0.36. Hs-troponin I was normal. Chest X-ray showed bulging of the apex. We had suspicius LVA otherwise acute anterior STEMI and postponed the thrombolytic therapy. We confirmed echocardiography examination and revealed LVA in anterior wall. LVA defined as localized area of infarcted myocardium that bulges outward during both systole dan diastole. LVA commonly are noted after large anterior wall STEMI. The mechanism is thought to be related to incomplete reperfusion and transmural scar formation following an acute STEMI. ECG characteristics from LVA such as persistent ST elevation, absence of dynamic ST segment changes, absence of reciprocal ST depression and well-formed Q waves. The ratio of T-wave to QRS complex amplitude has been proposed as an additional means of differentiating between LVA and acute STEMI
Conclusion: LVA is a rare complication after STEMI. Persistent ST elevation in ECG is mimicking acute anterior STEMI. A detailed history taking with serial and proper ECG interpretation is mandatory to reach an accurate diagnosis.
Keywords: *Left Ventricle Aneurysm, Electrocardiography, ST Elevation Myocardial Infarction*

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20. High Thrombus Burden in Late Presentation of Inferior ST-Elevation Myocardial Infarction Managed by Primary Percutanous Coronary Intervention: Is There Still Place for Thrombus Aspiration?

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Background: High thrombus burden is an important indicator of complications which may occur in ST-elevation myocardial infarction (STEMI) patients undergoing primary percutaneous coronary intervention (PCI). Current STEMI guidelines do not recommend routine use of thrombus aspiration, but in case of high thrombus burden, selective use of thrombus aspiration may still play a role.
Case Illustration: A 54-year-old man presented to emergency department with typical chest pain since 24 hours. His risk factor was smoking. At the admission, blood pressure was 110/70 mmHg, heart rate was 54x/minute, respiratory rate was 22x/minute, oxygen saturation was 96% on room air. Physical examination was unremarkable. ECG showed ST-elevation and pathologic Q waves in inferior leads. He was diagnosed with inferior STEMI late presentation. After given initial treatment, he underwent primary PCI. Coronary angiography revealed total occlusion of the distal right coronary artery (RCA). After crossing the lesion with guide wire, predilatation was attempted using a semi-compliant 2.0x15 mm balloon, but no flow could be restored. Predilatation was repeated using a non-compliant 3.0x15 mm balloon, but still no flow. Nitroglycerin 200 mcg was then given intracoronary several times, but still no flow. Streptokinase 150.000 IU was then given intracoronary, but still can't restore the flow. We decided to do thrombus aspiration using a 6F catheter. Post thrombus aspiration showed restoration of flow in distal RCA. A bare metal stent 3.0x33 mm was then deployed successfully at 16 atm in distal. Final result was TIMI flow 3 with no residual stenosis. He was discharged satisfactorily after 4 days.
Discussion: High thrombus burden is associated with worse outcomes, including no-reflow phenomenon, increased myocardial necrosis, and subsequent reduced survival. Appropriate management of thrombus is essential for successful PCI, which can be achieved using combination of pharmacological and mechanical approaches prior to coronary stent insertion. Recent study shows that intracoronary thrombolysis is more beneficial than thrombus aspiration in improving myocardial microcirculation perfusion. However if intracoronary thrombolysis failed to restore coronary flow as in our case, thrombus aspiration can be used as alternative strategy.
Conclusion: Selective thrombus aspiration during primary PCI can be a safe and effective strategy in managing STEMI with high thrombus burden.
Keywords: High thrombus burden, STEMI, percutaneous coronary intervention, thrombus aspiration

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21. Achieving Complete Peripheral Revascularization through Complex Percutaneous Peripheral Intervention Accessed Antegradely via Newly Grafted Femoral Artery Bypass Segment in a Patient with Acute on top of Chronic Limb Ischemia

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Background: In patients with critical limb ischemia, determining the appropriate percutaneous access strategy for peripheral vascular interventions often become challenging. We report a case in which we successfully performed percutaneous peripheral intervention of the left lower extremity vessels via newly grafted bypass segment of the femoral artery.
Case Illustration and Discussion: A 76-year-old female with history of peripheral artery disease came to our hospital with sudden pain of the left lower extremity. She was diagnosed with acute (Rutherford IIb) on top of critical limb ischemia of the left lower extremity. Emergency peripheral angiography showed total occlusion of the ostial left common iliac artery and ostial-mid superficial femoral artery (SFA) with heavy calcification and reconstitution of flow at the mid-distal left SFA. An initial percutaneous approach to open the chronic total occlusion segments was unsuccessful. Hence, emergency bypass surgery with crossover femoro-femoral arterial bypass using 8-mm synthetic corrugated unigraft followed by saphenous vein graft (SVG) from proximal to distal left SFA were done successfully. At seven days post surgery, there was recurrent pain and cyanosis expansion of the left foot. Emergency angiography via radial artery showed patent femoro-femoral and SVG graft, and the second access was taken antegradely via new SVG graft to visualize distally, which showed severely diseased left distal popliteal, proximal tibioperoneal trunk (TPT) and totally occluded proximal posterior tibial artery (PTA). The peripheral intervention of the popliteal, tibioperoneal and PTA were successfully done with good reconstitution of flow. There was immediate clinical improvement post procedure and she was discharged at the third day post intervention.
Conclusion: Percutaneous peripheral intervention via newly grafted bypass segment may be done safely, in order to achieve complete and prompt revascularization of the lower extremity vessels in acute on top of chronic limb ischemia.

Keyword : Percutaneous Peripheral Intervention, Critical Limb Ischemia

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22. **End Stage Renal Disease with Aneurysmatic and Critical Stenosis of Coronary Artery: Myocardial Revascularization Strategy**

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Background: Cardiovascular disease is a major concern for patients with end-stage renal disease (ESRD), especially those on hemodialysis because of presentation with atypical symptoms. Several studies showed worsened clinical outcomes after coronary revascularization, which were dependent on the severity of renal dysfunction. In this case, coronary revascularization was performed to an ESRD patient with aneurysmatic and critical stenosis of coronary artery.
Case illustration: A 52-year-old woman was admitted to hospital with chief complaint of chest pain in the last 3 months. Patient has history of chronic kidney disease (CKD) on regular dialysis 2 times/week. Diagnostic coronary angiography (DCA) was performed to the patient and the result was Double Vessel Disease + Left Main Disease with aneurysmatic artery at proximal of left anterior descending (LAD) coronary artery and critical stenosis at the distal of aneurysmatic coronary artery. Coronary artery bypass graft (CABG) surgery procedure was performed for myocardial revascularization strategy. A recent post hoc analysis of the SYNTAX trial on patients with CKD confirms the principles for allocating patients to PCI or CABG. SYTAX score of the patient was 49 and using society of thoracic surgery (STS) risk score, the risk of Mortality was 1.786%, and morbidity or mortality risk was 12.058%.
Conclusion: Myocardial revascularization in the elective setting is appropriate when the expected benefits, in terms of survival or health outcomes (symptoms, functional status, and/or quality of life), exceed the expected negative consequences of the procedure.

Keywords: end-stage renal disease, aneurismatic coronary artey, myocardial revascularization, SYNTAX score

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23. Newly Diagnosed Rheumatic Valvular Heart Disease Admitted For Treatment of Heart Failure and Atrial Fibrilation: A Case Report

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Background: Rheumatic fever is a delayed consequence of pharyngeal infection with group A streptococcus (GAS), the disease manifestations can affect cardiovascular system. Rheumatic carditis is considered to be the most serious of the manifestation of GAS infection. The disease mostly affect the mitral valve (85%). Aschoff bodies initially form on the valve leaflets and slowly enlarge due to increased deposition, these deposits causing mitral regurgitation and chronically this leads to left atrial enlargement (which can lead to atrial fibrilation), eventually heart failure.
Case illustration and discussion: A 34 year old man presented to the emergency departement with shortness of breath on moderate exertion for two years, with worsening in one week before hospitalisation. He also complained productive cough, fatigue on excertion over previous week. He recalled having “sore throat” with flu-like symptoms about 15 years ago. The patient was afebrile, blood pressure 100/60 mmHg, elevated jugular venous pressure. Lung and cardiac auscultation showed bilateral crackles at lower bases and systolic murmur in the mitral valve area. The abdominal examination was normal, but slight edema of the lower limbs. The electrocardiogram showed frequency of 50 bpm, atrial fibrilation, and left ventricular (LV) strain suggesting LV hypertrophy. Chest x-ray demonstrated cardiomegaly and pulmonary congestion. Echocardiogram revealed rheumatic heart disease (RHD) with severe mitral regurgitation, ejection fraction 47%. The patient was admitted for treatment. He received furosmide intravenously, benzathine penicillin, spironolactone, and warfarin for anticoagulation. He was referred to another hospital for cardiothoracic evaluation of potential valvuloplasty of mitral valve.
Conclusion: RHD is a preventable heart condition that remains endemic among children and young adults particularly in developing country such as Indonesia. Without intervention, RHD progress to heart failure and arhythmias especially atrial fibrilation.
Keywords: Rhumatic heart disease, heart failure, atrial fibrilation

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24. **Peripartum Cardiomyopathy During Puerperium in a Pregnancy Complicated by Severe Pre-Eclampsia and Obesity: A Case Report**

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Background: Peripartum cardiomyopathy (PPCM) is a rare, but life-threatening type of systolic heart failure affecting young woman toward the end of pregnancy or in the months following delivery. The risk of PPCM markedly increases among women with hypertension during pregnancy (5-21 times) compared with normotensive women. The experimental work done in animal models has provided support for the angiogenic-imbalance theory proposed regarding the association between these two conditions.
Case illustration and discussion: The patient was a 29-year-old multiparous parturient woman, who underwent cesarean section after the occurrence of severe preeclampsia and intrauterine fetal death, she developed shortness of breath following postsurgical. The patient had no prior history of hypertension, but her pre-pregnancy body mass index: 30 kg/m^2. Electrocardiography showed sinus tachycardia. A chest radiograph showed cephalization of the pulmonary vessels, pleural effusion, cardiomegaly due to left ventricle (LV) enlargement and pericardial effusion. Echocardiogram confirmed the reduction of LV contractility (ejection fraction 44%), LV dilatation and pericardial effusion. Patient was diagnosed by cardiologist with peripartum cardiomyopathy and she was transferred to an intensive care unit (ICU) for further management. Supportive management included fluid restriction, propped up position, O_2 inhalation, diuretics, beta blocker and angiotensin-converting enzyme inhibitor. Respiratory and hemodynamic function improved rapidly, and the patient was moved to the general ward 5 days after admission. The patient continued to improve clinically and was discharged home on the 14th day of her admission.
Conclusion: Women who develop preeclampsia are more likely to carry protein-altering mutations in genes associated with cardiomyopathy, particularly in TTN. Soluble Fms-like tyrosine kinase1 (sFlt1) an antagonist of vascular endothelial growth factor. sFlt1 levels are markedly elevated in women with preeclampsia, likely in part explaining why preeclampsia is such a strong risk factor for PPCM.
Keywords: peripartum cardiomyopathy, severe preeclampsia, obesity, puerperium

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25. **Unusual Etiology of Heart Failure due to Malignant Anomalous Right Coronary Artery**

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Background: Malignant Anomalous of the right coronary artery is a rare anomaly that origin from the left main coronary artery with subsequent coursing between the aorta and pulmonary trunk. Due to the malignant course, it has been associated as one of etiology heart failure. In this report, we present a patient with heart failure and anomalous of right coronary

Case illustration: 40 years old man came to our clinic with chief complaint shortness of breath and atypical chest pain. His complaint aggravated by physical stress. He was an alcoholic. Patient heart rate was 70 bpm, blood pressure was 110/80 mmHg, systolic murmur in lower left sternal border was heard. The laboratory results showed Polycythemia. Transthoracic echocardiography showed dilated all chambers, LVEF 25,3%, TAPSE 2,28 and Regional Wall Motion Abnormality. CCTA performed Right coronary artery was visualized as anomalous originating from left main coronary artery subsequent coursing between the aorta and pulmonary trunk. The patient had zero calcium plaque burden and there was no evidence of coronary stenosis due to atherosclerotic. The Malignant right coronary artery may have serious sequelae. The interarterial course is subject to compression, which may result in a higher incidence of angina, myocardial infarction, and sudden death. Ventricular dysfunction in this patient due to increased of cardiac output and oxygen demand that cause by the occurrence of hypervolemia. The increase in hematocrit may justify the higher cardiac output and may increase the blood viscosity to levels that lead to hypercoagulability. The thrombocytosis in this patients worsened the ischemic event.

Conclusions:

In conclusion, we described patient with malignant anomalous right coronary artery presenting Heart failure and Polycythemia. This case report emphasizes the etiology of HF must be sought in all cases, because its recognition can direct the therapy and influence the prognosis of these patients.

KEYWORD: *Heart failure, Malignant anomalous right coronary artery.*

Figure 1 3D-volume rendered image of of multidetector computed tomography showing anomalous right coronary artey (RCA)

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26. **Brugada Type Electrocardiograph Pattern Induced By Fever In Septic Shock Patient: A Case Report**

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Introduction: Brugada syndrome (BrS) is an inherited sodium channelopathy of cardiac myocytes. BrS occasionally precipitated by fever. Many of these patients do not get diagnosed due it's dynamic and often hidden nature. Patients are at risk for sudden cardiac death due to ventricular fibrillation (VF). This case is described as type-1 BrS induced by fever in Septic Shock patient.
Case Illustration-Discussion: A 70-year old male presented to ED with fatigue six hours before admission. Due to the history-taking, diarrhea was present for a week with a frequency of 5 times/day, accompanied by fever since 3 days ago. Vital signs show BP 85/60 mmHg, Temperature 37.8^{o}C, Pulse 120x/m, RR 22x/m, SpO2 95%. Cardiopulmonary examination revealed widespread bilateral wheezing. ECG shows sinus tachycardia, regular rhythm and saddle shaped ST-segment elevation on V1-V3. CXR shows significant increase in pulmonary vasculature. Laboratory findings showed a leucocytosis (14.300 mm3), thrombocytopenia (88.000 mm3), increased level of creatinine (1.4 mg/dL), Ureum (55 mg/dL), SGOT (94 IU/L), SGPT (74 IU/L). The patient was diagnosed with septic shock and BrS. The patient was administered with fluid challenge using Ringer Lactate (500 cc) and Norepinephrine (0.05mcg/kg/min), patient was referred to a bigger hospital. Fever induced Brugada is the term to describe the aggravation of ECG characteristics of this syndrome during febrile states. There is more than one proposed mechanism for its pathophysiology. True prevalence of this phenomenon still very little known. Gender, age and the effect of temperature have been known to be a complex reason that's attributed to Fever induced Brugada.
Conclusion: We describe a case of Fever Induced Brugada in a Septic Shock patient. Such patients should be closely monitored since the risk of arrhythmias may be high. This case suggests a direct association between Brugada syndrome and septic shock that further evaluation is needed.

Keyword: BRUGADA SYNDROME; SEPTIC SHOCK; FEVER; ELECTROCARDIOGRAPH

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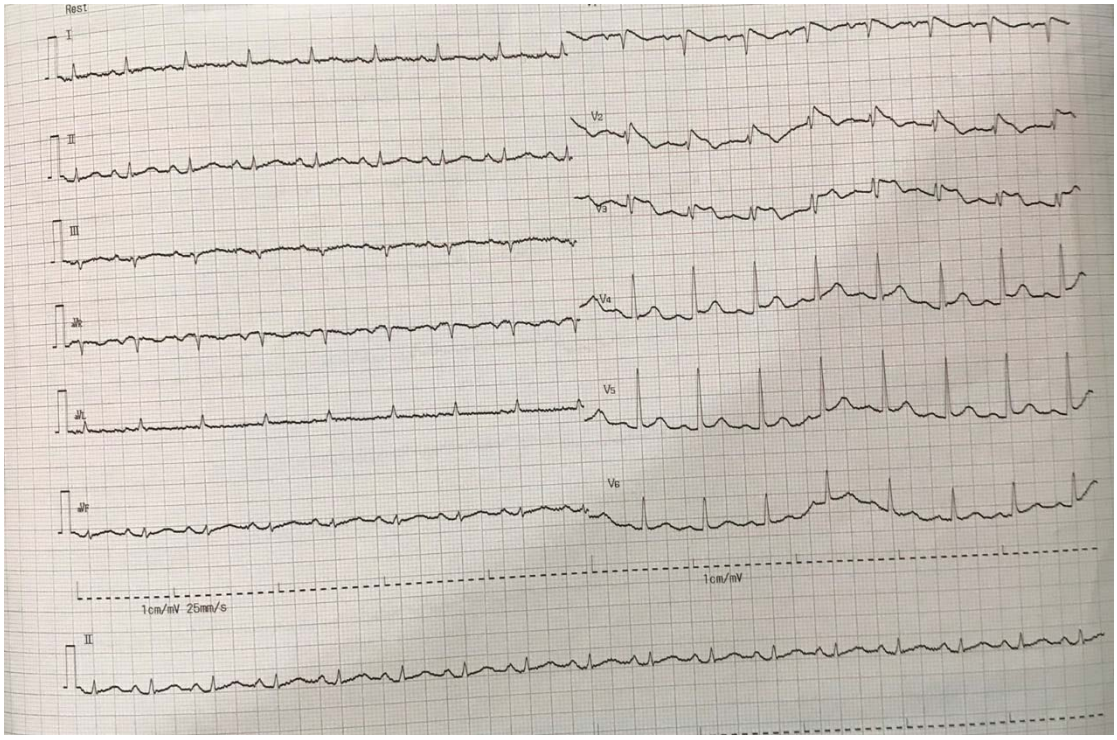

Figure 1. The Patient's ECG Result.

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27. Ventricular Arrhythmias Originating from Papillary Muscles in The Right Ventricle: A Rare Case Report Study

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Background: Idiopathic ventricular arrhythmias (IVAs) from right ventricular papillary muscle are an uncommon. Most of IVAs occur in patients without structural heart disease (SHD), but also can occur in those with SHD. We report a case of young male without SHD present with premature ventricular contraction (PVC) originating from the right ventricular papillary muscles (RV PAPs) that was successfully treated using radiofrequency catheter ablation.
Case Presentation:A 29-year-old male presented to our clinic with symptomatic palpitation since six months earlier. His physical examination was unremarkable. Electrocardiography (ECG) showed sinus rhythm with frequent monomorphic PVC. Clinical PVC characteristics are left bundle branch block, superior axis, and late transition zone in leads V4-V5. Holter monitoring showed 15% of PVC burden. Transthoracic echocardiography showed normal cardiac function and no structural heart disease seen. Electrophysiology study (EPS) showed spontaneous PVCs were present, and pace-map showed 12/12 origin from the posterior papillary muscle of tricuspid valve (TV) with purkinje potential seen. Multiple radiofrequency ablations applied at this site using Livewire St.Jude 4 mm (60^0 C, 30 Watt for 20 second) induced acceleration then reduction of ventricular tachycardia (VT). Evaluation post ablation using aggressive program stimulation (PES) S1S2S3 and using isuproterenol iv didn't induced clinical PVC. Echocardiography and Holter monitoring post procedure showed normal cardiac function and didn't showed clinical PVC. PVCs originating on the papillary muscles comprise only approximately 5% of all types of PVCs. Although papillary muscles are located within both the right and left ventricles, PVCs originating in the papillary muscles of the right ventricle are extremely rare. In 12-lead ECG, the presence of VT/ PVCs showing an LBBB pattern with superior axis in inferior leads, late precordial transition in V4-V5, notching pattern in limb lead, informed us that the origin of PVCs this patient is RV PAPs posterior.
Conclusion: We identified PVCs originating in the right ventricular papillary muscle in characteristic ECG confirmed with EPS. Performing the ablation procedure was challanging. However, treatment was successful when multiple radiofrequency ablation was performed
Keywords: ventricular arrhythmias, PVC, right ventricle, papillary muscles

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28. Non-significant Disease Presenting as Myocardial Infarction in the Absent of Obstructive Coronary Artery Disease (MINOCA) in Men: a Case Report

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Background: Myocardial infarction in the absence of obstructive coronary artery disease (MINOCA) is a variant of acute myocardial infarction (AMI) with no evidence of obstructive coronary artery. MINOCA had been found in 8,7 % of patients with AMI.
Case illustrasion and discussion: A 44 years old male presented with acute typical chest pain, dyspnoea, and cold sweat after syncope, has been smoking for 10 years with hypotension, ST-segment elevation on limb lead II – III, AVF, and elevated troponin I on the second test. Echocardiography test showed an LV regional wall motion abnormality. The patient undergoes coronary angiography via the right femoral artery and revealed a non-significant disease. The patient was diagnosed with MINOCA. Treatment given to the patient was inotropic, antiplatelet, statin and nitrate. An ST-segment Elevation Myocardial Infarction (STEMI) with no obstructive coronary artery has been a rare condition. This case demonstrated a patient with MINOCA in smoker men. MINOCA can be diagnosed with coronary angiography.
Conclusion: Finding the etiology of MINOCA has been a challenge. Etiology must be found cause it can affect the therapy given to a patient with MINOCA. Cardiovascular Magnetic Resonance (CMR) imaging can be used to determine the etiology and prognosis of MINOCA. Furthermore, MINOCA patient needs to do follow-up visits to limit MACE and decrease the mortality rate.
Keywords: MINOCA, AMI, STEMI

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29. Apical Hypertrophic Cardiomyopathy Mimicking Wellen Type B A Challenging Diagnostic and Clinical Presentation

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Background: Apical Hypertrophic Cardiomyopathy (ApHCM) known as Yamaguchi Syndrome is a rare form of Hypertrophic Cardiomyopathy (HCM) that involves thickening of the distal portion of the left ventricular wall. Most commonly seen in the Japan, with a prevalence rate of about 15% and its incidence in the USA is approximately 3% of HCM cases. In a European cohort study, the mean age at clinical presentation in patients with ApHCM was 41.4 ± 14.5 years while the diagnosed age was around 46.1 ± 15.1 years. This caused by complaints that are not specific to patients with ApHCM. This case highlights the rare incidence of the disease as well as the challenging diagnostic and presentation features of the disease.
Case Illustration: A man, 46 y.o., came to our cardiac clinic referral from a private laboratory because ECG showed a sign of Wellen type B. He was asymptomatic. He has a history of hypertension. Transthoracic echocardiographic revealed asymmetrical thickening of the left ventricular wall with a thickness in apical region. CCTA revealed no stenosis in proximal LAD. Apical 4 chambers view showed a picture of "Ace of Spades" and hypertrophy in the apical region with a thickness of 2.2 cm. Establishing a diagnosis from ApHCM often difficult because there are no typical complaints in patients suffering from the disease. Enforcement can be done through imaging tests in the form of echocardiography, CT and CMR. Patients with ApHCM obtained ECG images with deep T wave inversions on precordial leads. But this picture of T wave inversion can also be found in other disorders such as Wellen's syndrome. So the imaging modality is very important in determining the diagnosis of patients with ApHCM.
Conclusion: We reported a male 46 y.o. with ECG showed Wellen type B. Transthoacic echocardiography and CCTA establish ApHCM.

Keywords: Apical Hypertrophic Cardiomyopathy, Wellen's Syndrome, *Ace of Spade*

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30. Brugada Syndrome In Post Seizure Young Male Patient – A Case Report

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Background: Brugada syndrome (BrS) is a type of arrhythmia disorder characterized by abnormal finding of several ECG patterns such as incomplete right bundle-branch block, ST-segment elevations (J-Point) in the anterior precordial leads, and normal QT interval without demonstrable structural heart disease. Some of clinical situations like febrile state, electrolyte imbalance, alcohol or cocaine intoxication have been reported to unmask or exacerbate the ECG pattern of BrS.

Case illustration and discussion: A post seizure, 20-year-old male, who was brought to emergency room (ER) unconsciously. The patient had no history of epilepsy, syncope nor any other illness. During the physical examination, there was no palpable pulse and no spontaneous breathing. He was smell alcoholic as well. Both pupil were enlarged with slight light reflect and the ECG monitor showed a ventricular fibrillation (VF). Adequate CPR was done, the patient returned to spontaneous circulation. The 12-lead ECG was recorded, showing a coved ST-Elevation in V2-V6 with incomplete right bundle-branch block which is a specific diagnostic criteria for Brugada syndrome. Vital sign turned stable and laboratory test with chest x-ray being performed while the patient transferred to ICU. The auxiliaries finding were within normal limits.

Conclusion: Nowadays most BrS patients in well-developed countries are diagnosed while they are asymptomatic and many do not present the characteristic ECG spontaneously, but after a pharmacologic challenge. Numerous pathogenic mutation in several genes have been found that encode for subunits of cardiac sodium, potassium, and calcium channels, as well as genes involved in the regulation of these channels. As for general practitioner, it is a great importance to consider that BrS might be the culprit of patient with syncope or post seizure condition, since its epidemiology is quite common in South East Asia region.

Keywords:
Brugada syndrome (BrS), syncope, sudden cardiac death (SCD), post seizure

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31. The Role of Synchronized Electrical Cardioversion vs Pharmacological Cardioversion in Monophormic Ventricular Tachycardia post CABG : A Case Report in Emergency Room

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Background: Arrythmias are common after cardiac surgery such as CABG. Tachycardia with uncontrolled ventricular rate can cause unstable hemodynamic. Immediate decision making to terminate wild ventricular rate determine final outcome later.
Case Illustration: Male, 69 years old came to ER with chief complaint of shortness of breath. He felt palpitation and chest discomfort. He is alert with BP 90/60 mmHg RR 20, clear lung field no edema and warm extremities. He had performed CABG last year. ECG showed monomorphic Ventricular Tachycardia. He received fluid challenge 250ml normal saline then amiodarone 150mg in D5 saline 100ml for 10 minutes. Later, he became unconscious, BP turned 60/40 mmHg and cold extremities. Immediate 100 joule electrical synchronized cardioversion was given under diazepam premedication. Monitor showed conversion rhythm into sinus rhythm and patient got better than before. Patient was transferred to intensive care unit for next definitive therapy. The patient had received amiodarone beyond his stable VT episode . However, this therapy could not terminate ventricular arrhythmia well. According to the guideline, every unstable patient with VT and pulse must be given synchronized cardioversion. The result had shown better outcome as patient turned to normal sinus rhythm and hemodynamic stability.
Conclusion: Synchronized electrical cardioversion is the best decision to terminate unstable monophormic ventricular tachycardia. Proper management in emergency situation will give the best outcome for patient.

keywords: synchronized electrical cardioversion, monophormic ventricular tachycardia, amiodarone

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32. **Acute De Novo Heart Failure in Young Adult with Ventricle Septal Defect Complicated Aortic Valve Prolapse**

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Background : Ventricle septal defect (VSD) is the most common congenital heart disease and 10% is diagnosed in adults. VSD can be associated with various complications such as heart failure and aortic regurgitation (AR).
Case illustration: A 20-year old male came to ER with chief shortness of breath since 2 days ago. He also had prior CHD from child but never checked it to doctor. Vital sign revealed BP 105/60 mmHg, HR 105 bpm, RR 24 bpm and normal saturation. Heart sound revealed holosystolic murmur in LLSB, diastolic murmur in URSB and rales in both lung. ECG showed left ventricle hypertrophy. Chest X-Ray showed cardiomegaly with pulmonary congestion. From transthorac echocardiography examination found 1.6 cm perimembranous VSD left to right shunt and AR moderate et causa prolapse right coronary cuspis with LVEF 53%. The patient was given diuretic, ACE-inhibitor with beta blocker and showed clinical improvement. The patient was planned for surgical intervention.VSD is associated with aortic valve prolapse and mainly right coronary cuspis prolapse. Pathophysiology of aortic valve prolpse and AR in VSD include deficient structural support for leaflets adjacent to the VSD, abnormal commissural suspension and venturi effect which leads to suction and subsequent deformity of the leaflets adjacent to the defect. Echocardiography is essential modality for evaluated VSD. VSD with complication AR increase the risk for endocarditis and left ventricular volume overload and lead to heart failure and indicated for surgical intervention.
Conclusion: AR is common complication in VSD. Right coronary cuspis prolapse is most frequent involved. VSD with AR increase risk for infective endocarditis and heart failure. Surgical clossure is recommended in VSD associated aortic valve prolapse.
Keywords: *Ventricle Septal Defect, Aortic Valve Prolapse, Right Coronary Cuspis*

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33. **Arrhythmia In Teenager With Surgically Repaired Tetralogy Of Fallot: A Case Report**

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Background: Tetralogy of Fallot is the most common cyanotic congenital heart disease, with a good outcome after total surgical correction. Adult patients who hace undergone repair in infancy or childhood are at risk for developing atrial and ventricular arrhythmias, and consequently, suddent death. In spite of a low perioperative mortality and a good quality of life, late sudden death remains a significant clinical problem by the time they reach adolescence or adulthood

Case illustration and discussion: We present 12 years old boy, brought to the emergency room with palpitations. He felt palpitated right after he was about to sleep. It was being said that the palpitation was the worst that he ever felt. Before, he only felt the palpitation after doing exaggerate exercise. The patient did not feel any chest pain, fatigue, lightheadedness or dizziness, or shortness of breath during his palpitation. Past medical history revealed that the patient was undergoing a TOF repair at 20 months old age. The heart rate was 187 bpm, blood pressure was 106/77, respiration rate was 20 times per minute with 99% oxygen saturation, and body temperature was 36.4 celsius. Twelve lead ECG showed a wide complex tachycardia. Using available algorithms, it was confirmed that the ECG record was SVT with aberrancy. A bolus of Amiodarone was given intravenously and successfully convert the SVT into sinus rhythm of 93 bpm. Arrhythmia in this patient occurs for a variety of reasons, although the mechanism for the development of atrial tacchycardia appears to be in nature.

Conclusion: P wave morphology algorithm is used to predict the focal site of the atrial tachycardia. Further 3D mapping for electrophysiology study can be considered in advanced cardiac center.

Keywords: Tetralogy of Fallot; Surgical Repair; Atrial Tachycardia; SVT Aberrancy; Wide Complex Tachycardia

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34. **Managing Atrial Fibrillation Patient Presenting With Hypokalemia In Type-D Hospital. Is It Hypokalemia-Induced Atrial Fibrillation Or There Was Another Factor?: A Case Report**

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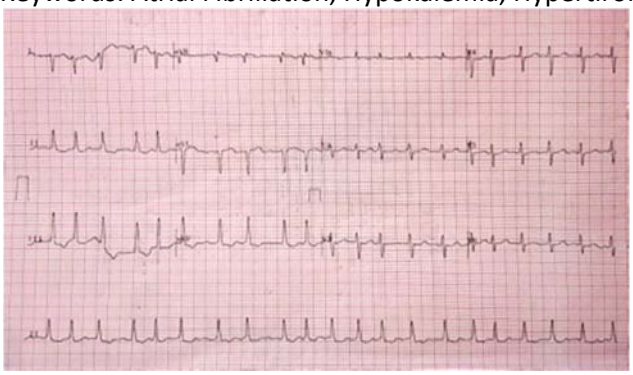
Background: Atrial Fibrillation (AF) is an arrhythmia that characterized by excitation of the atrium and the electrical signal that uncoordinated properly. There are causes of AF such as genetic predisposition, external stressors that remodel the atrium structure such as structural heart disease, electrolyte imbalance and hypertiroidism.
Case Illustration: A 52 years old female came to the emergency room with complaints of palpitations 3 hours prior to admission. She has a history of heart failure (HF) and hypertension. The blood pressure is 130/90 mmHg, heart rate 146 bpm irregular. The ECG showed AF. The potassium levels is 3.0 mEq/L. Thorax rontgen showed cardiomegaly.
This patient consulted to cardiologist and hospitalized with a NaCl 9% following with intravenous KCl 25 mEq, oral digoxin 1x0.25 mg, bisoprolol 1x5mg. Patient also consulted to internist, hypokalemia and AF was suspected from thyrotoxycosis without data of TSH, T3 or FT4 level since not available in this hospital. After three days, the potassium level corrected to 3.6 mEq/L, heart rate around 90 bpm, hemodinamically stable. AF occurs in up to 15% of patients with hyperthyroidism and triiodothyronine (T_3) toxicosis compared to 4% of people in the general population. From the The *Burch-Wartofsky* Point Scale (BWPS) for the thyrotoxicosis diagnostic, this patient scoring result is 45, suggest that she had an impending thyroid storm. A research from Rotterdam Study prove that low potassium level were associated with a higher risk of atrial fibrillation. History of HF also associated with AF. Prevalence of AF in patients with HF ranges from 10-30%.
Conclusion: Atrial fibrillation can caused from electrolyte imbalance, hypertiroidism and HF. A correction of potassium and rate control of atrial fibrillation is needed. Thyroid laboratory check must be performed, and also echocardiography for a possibly structural heart disease.

Keywords: Atrial Fibrillation, Hypokalemia, Hypertiroidism, Thyrotoxicosis, Heart Failure.



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35. **A Successful Fibrinolytic Therapy In Acute Coronary Syndrome Patient With ST-Elevation Myocardial Infarction And Hyperglycemia, In Non-PCI Center Hospital: A Case Report**

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Background: Acute coronary syndrome (ACS) is condition that frequent presenting with hyperglycemia. The preferred reperfusion strategy of acute coronary syndrome with ST-elevation myocardial infarction is Primary PCI. However, in some circumstances, starting an initial reperfusion with fibrinolysis is considered, especially in a non-PCI center hospital and located in areas far from PCI center.
Case illustration: A 48 years-old female came to the emergency room due to an atypical chest pain 1 hour prior to admission accompanied by diaphoresis and nausea. ECG showed ST-elevation on II, III, aVF. Blood glucose level is 557 mg/dL. CKMB level is 208 u/L and Troponin I is >10 ng/mL. A loading of dual antipletelet, followed with a bolus intravena of streptokinase 1.5 million units in 100 cc normal saline, rapid-acting insulin given on syringe-pump with initial dose 2 units/hour. After 2 hours observation there was an evolution of ECG that ST segments returned to baseline and the symptomps alleviated. Fibrinolytic is reperfusion strategy where primary PCI cannot be offered in a timely manner, and recommended within 12 hours of symptom onset if primary PCI cannot be performed within 120 min from STEMI diagnosis and there are no contraindications. Hyperglycemia on admission in patients with ACS is common, and it is a powerful predictor of survival and increased risk of in-hospital complications in patients both with and without DM. In the acute phase, it is reasonable to manage hyperglycaemia (≤11.0 mmol/L or ≤200 mg/dL) but avoid hypoglycaemia (<5.0 mmol/L or <90 mg/dL).
Conclusion: Starting a fibrinolytic reperfusion therapy is the best choice with an obvious observation. In the setting of ACS with hyperglycemia, the blood glucose lowering therapy must be maintained ≤200 mg/dL to avoid high risk of mortality and morbidity.

Keywords: Acute Coronary Syndrome, ST-elevation Myocardial Infarction, Hyperglycemia, Fibrinolytic, PCI.

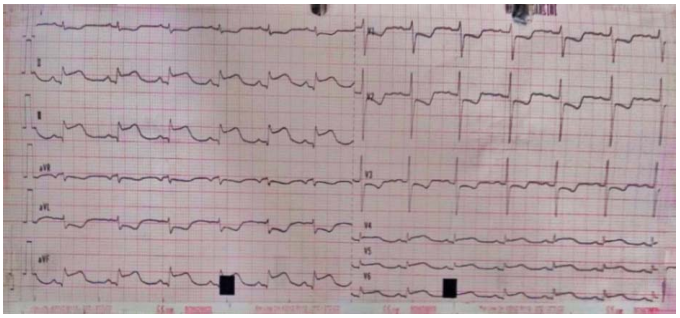

figure 1. ECG Pre Fibrinolytic

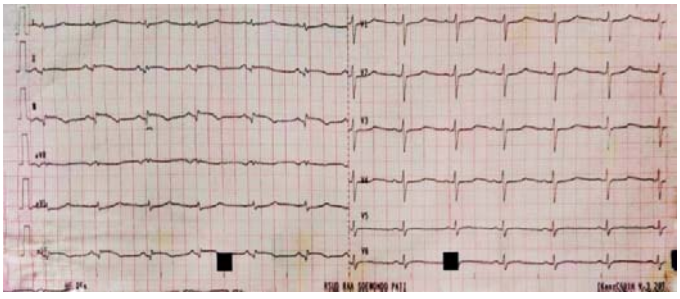

Figure 2. ECG Post Fibrinolytic

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36. **Emergency Non Cardiac Surgery After Recent PCI Due to STEMI With Fibrinolytic**

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Background : Dual antiplatelet therapy (DAPT) is needed to prevent thrombosis post PCI, while vascular healing and stent endothelization are ongoing. On non cardiac emergency surgeries for patients post PCI, careful consideration should be given to stopping DAPT because of the risk of bleeding during surgery and the risk of ischemia.
Case Illustration And Discusion :54-year-old man complains of chest pain 6 hours before hospitalization. Assessed with an STEMI inferior RV onset 6 hour killip IV, DM. Then given fibrinolytic. On the third day of treatment, catheterization was performed with the results CAD2VD, PCI 1 DES proximal-mid LAD, 1 DES proximal-mid RCA. On the third day after stenting, patient complained of right abdominal pain. Examination results obtained destended stomach, increased bowel sounds, tenderness (+), palpable mass in the right quadrant. 3 positions abdomen radiograph shows ground glass appearance at the bottom, step leader appereance, air fluid level sub diaphragm, and then consecrated to the surgery with generalized peritonitis and gallbladder perforation. DAPT was stopped and continued 48 hours after emergency laparotomy. During treatment at the hospital there were no complications and the patient returned with DAPT therapy for 1 year.Perioperative risk is still challenging with consideration of clinical and anatomical variables, along with surgical risk for ischemia and bleeding. DAPT must be continued 48 hours after surgery if possible.
Conclusion: The risk and management of post PCI patients who undergo surgery is very complex and requires special strategies and multidisciplinary team.

Keyword: Emergency Non Cardiac Surgery, Fibrinolytic, PCI

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37. Patient with Severe Rheumatic Mitral Stenosis: When We Should Call The Cardiothoracic Surgeon?

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Background: Mitral stenosis (MS) is characterized by a decrease in mitral valve (MV) orifice area leading to compromised left ventricular filling. The consequence is the stagnation of blood proximal to the MV that results in elevated left atrial, pulmonary venous, and pulmonary artery pressures. Approximately 15.6 million people globally suffer from rheumatic heart disease, and 233000 die prematurely of the disease every year. There is no current data on the prevalence of rheumatic MS in Indonesia, but in the Southeast Asia region, it is estimated at 0.8% per 1000 population.

Case Illustration and Discussion: A 54 y.o man came to the emergency department with dyspnea for three days before admitted. Vital signs were BP 120/70 mmHg, HR 100 bpm, RR 26 breaths/min, oxygen saturation 97% on room air. Cardiac auscultation revealed heart sound I and II are varied with diastolic murmur 2/4 at the apex, and systolic murmur 2/6 at lower left sternal border. ECG revealed atrial fibrillation normoventricular response, right axis deviation, and right ventricle hypertrophy. Echocardiography shows severe mitral stenosis, moderate mitral regurgitation, and thrombus in the left atrium. The patient was a significant MS with symptoms, so the selection of actions was important in this case. Surgery and percutaneous mitral commissurotomy (PMC) are steps in the management of significant MS patients with symptoms. In this case, according to the guidelines of the European Society of Cardiology, surgery with mitral valve replacement was chosen because a thrombus was found in the left atrium, and there was moderate mitral regurgitation.

Conclusion: The clinician must understand the indications and contraindications for both surgery and PMC. The success of the action is determined by careful perioperative risk assessment, prosthesis selection, anticoagulant management, long-term clinical supervision, and patients with good adherence.

Keywords: Mitral Stenosis, Mitral Valve Replacement, Percutaneous Mitral Commisurotomy

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38. **Deep Vein Thrombosis in Postpartum Woman Treated with Rivaroxaban: a Case Report**

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Background: Deep vein thrombosis (DVT) is a known complication of pregnancy and postpartum period. Rivaroxaban, a novel oral anticoagulant is an option for DVT treatment and has been evaluated in many studies.
Case Illustration and Discussion: A 26-year-old woman P1A0 was transferred to Intensive Care Unit with cardiogenic shock one week after spontaneous delivery. On the 3rd day of medication, patient's left leg was swelling and pain on dorsiflexion (Homans sign) was present. Doppler ultrasound examination showed thrombus formation in the left common femoral vein to popliteal vein. The DVT Wells score is moderate risk. Electrocardiogram revealed sinus tachycardia, echocardiography showed RA-RV dilatation with mild pulmonary hypertension. Patient's condition improved after rivaroxaban medication 15 mg twice daily per oral and discharged after 7 days of hospitalization. One week following hospital discharge, the patient's left leg pain and swelling was reduced. And the patient's rivaroxaban therapy was continued.
During pregnancy until 6-8 weeks after delivery, there is an increase in the clotting factor level and decrease fibrinolytic activity leading to hypercoagulability states. Rivaroxaban is an oral, direct Factor Xa inhibitor that targets free and clot-bound Factor Xa and Factor Xa in the prothrombinase complex. Rivaroxaban FDA category in pregnancy is C. Hale lactation risk is L3 so it's safe for woman who continues breastfeeding. Rivaroxaban was demonstrated to be non-inferior to enoxaparin/warfarin and minimize major bleeding events. Rivaroxaban was non-inferior to fondaparinux in preventing thromboembolic complications and oral rivaroxaban offers a better quality of life compared to fondaparinux injection. Bleeding events, creatinine clearance and discontinuation of rivaroxaban therapy should be monitored.
Conclusion: DVT can be a source of morbidity and mortality during postpartum period. Rivaroxaban is an option in postpartum and breastfeeding woman for DVT without increasing bleeding risk in patients and her child.

Keywords: deep vein thrombosis, postpartum, rivaroxaban

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40. A Case Report: Atrial Fibrillation with Aberrancy in Young Man with Symptomatic Wolff Parkinson White (WPW) Syndrome

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Background: WPW syndrome is pre-excitation syndrome caused by the activation of impulses from accessory pathway in the ventricles and commonly occurred in young population. It presents with varying manifestation such as palpitation, exercise intolerance, syncope and rarely chest discomfort. WPW syndrome might potentially life threatening if accompanied by atrial fibrillation (AF), which might degenerate into ventricular fibrillation.
Case Presentation: A young man, 33 years old, with chief complaint of palpitation with new onset of chest pain. The early electrocardiography (ECG) study showed Atrial Fibrillation with Aberrancy and it converted to a sinus tachycardia pattern after given 50 J electrical cardioversion. Ten minutes prior to admission, re-evaluation to ECG was conducted and it showed positive delta waves pattern in I, AVL, V2, V3 leads; negative delta wave in II, III, AVF; RSR waves in V1, inverted T waves in I, AVL. The laboratories study showed hypocalcaemia and there was no significant result for cardiac marker. Echocardiography study showed 54% ejection fraction with hypokinetic in the inferior and intraventricular septum. The patient was treated with intravenous amiodarone then referred to Cardiac Centre of Sanglah General Hospital Based on the ECG analysis, this patient diagnosed as Type B WPW syndrome with prediction of right para-septal accessory pathway. Electrical cardioversion was indicated in unstable presentation. As the initial therapy, symptomatic medication was given to the patient in order to relieve palpitation but medication alone could not totally convert rhythm into normal sinus unless catheter ablation is conducted.
Conclusion: As a conclusion, early detection of WPW pattern and determination of the associated accessory pathway by ECG are important in order to prevent sudden cardiac death and give appropriate treatment in patient with WPW syndrome.
Keywords: *WPW Syndrome, Accessory Pathway, Atrial Fibrillation*

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41. **Contralateral Antegrade Catheter-Directed Thrombolysis**

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Background: Venous thromboembolism (VTE) most commonly manifests as lower extremity deep vein thrombosis (DVT) and pulmonary embolism. These have an annual incidence of 1-2 per 1000 population. VTE can be fatal if left untreated Its long term morbidity includes post thrombotic syndrome (PTS) and pulmonary hypertension. Symptoms and signs of leg or pelvis DVT include leg pain, swelling, erythema and dilated superficial veins. Some patients are asymptomatic. In the past decade, there are notable advances in risk prediction, diagnosis and treatment.
Case illustration: We report a case of a 42-year-old male with deep vein thrombosis. Doppler ultrasound showed diffuse thrombosis from left proximal iliac vein to both anterior and posterior tibial vein. Parenteral anticoagulation combined with oral thrombolytic drug were administrated. There was no improvement, so we decided to do catheter-directed thrombolysis (CDT). The issue was we did not have distal vein access. So we tried to do it antegradely from contralateral femoral vein. The challenge is difficulty of wire maneuver to cross the bifurcation and weak support. In this case, cross-over sheath was very helpful. We also anticipate embolic event by implanting inferior vena cava (IVC) filter primarily. The procedure was success both angiographically and clinically.
Conclusion: Contralateral antegrade CDT is a promising option for treating DVT. Cross-over sheath is required to facilitate wire maneuver and give extra support. Meanwhile, IVC filter implantation will give protection for embolic event.
Key words: VTE, DVT, catheter-directed thrombolysis (CDT),

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43. **Should We Think Hyperthyroidism in Supraventricular Tachycardia Patient?: A Case Report**

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Background: Supraventricular Tachycardia (SVT) is a common arrhythmia found in emergency room. SVT can be caused by many diseases including hyperthyroidism. Although the association between thyroid dysfunction and SVT is not well elucidated, approximately 2-20% of hyperthyroid patients have SVT as heart rhythm disturbance.

Case Illustration and Discussion: A-60 years old male presented to the hospital with dizziness and palpitation. He never takes any medicine before. There was no neck swelling, normal eyeballs, no cardiac murmur, and lungs were clear on physical examination. The electrocardiogram revealed SVT which was reverted to sinus rhythm with frequent supraventricular extrasystole after administration of intravenous digoxin. The laboratory findings revealed hyperthyroidism. He was treated with propylthiouracil and propranolol. The patient responded well to the treatment with no further recurrence of SVT.

Sinus tachycardia is the most common form of arrhythmia in hyperthyroid patients. SVT has been reported less commonly. It is an umbrella term used to describe tachycardia, the mechanism of which involves tissue from the His bundle or above. Thyroid dysfunction affects the prevalence of SVT by similar mechanisms that increases the risk of atrial fibrillation. It is more common in men and elderly. Ectopic beats resulting in conduction delay can initiate re-entrant tachycardia. Increased autonomic tone also influence tachyarrhythmia associated with enhanced automaticity. The common symptom is palpitation. Guidelines are available for the treatment of SVT. These recommend a thyroid-function test (TFT) especially on the case of inappropriate sinus tachycardia or premature extra beats. It is most commonly done in elderly patients. An untreated hyperthyroidism can lead to persistent tachycardia. Correction of the thyroid dysfunction is crucial. Anti-thyroid drugs remained cornerstone in the management of hyperthyroidism.

Conclusion: TFT needs to be considered in patients with SVT considering tendency of clinically significant arrhythmia in those with thyroid dysfunction.

Keywords: supraventricular tachycardia, hyperthyroidism

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44. **Painless ST Elevation Myocardial Infarction Attacked a 62-Year-Old Man**

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Background: Acute coronary syndromes (ACSs) offers a challenge from the standpoint of diagnosis, treatment, and prognosis, as the clinical manifestations vary considerably. The silent or atypical presentation of myocardial infarction is recognized as an important manifestation of coronary heart disease, with most studies suggesting that it is associated with an unfavorable prognosis.
Case Illustration : A 62-year-old male patient was referred to ER of Moewardi hospital from PKU Muhammadiyah Sukoharjo hospital with STEMI. He had history of weakness and got fainted when he worked at rice field 4 hours before admitted to Moewardi hospital. He fainted around 5 minutes and got conscious with nausea and headache. He denied any complaint of chest pain. He also denied any complain of palpitation and shortness of breath. Patient had a hypertension history with no routine drugs consumed. Patient was a smoker with a pack of cigarettes everyday and had stopped for 5 years. There are no history of diabetes mellitus and previous heart diseases. His vital sign are normal (BP 130/80, HR 85 RR 18 SpO2 98%). Hs Troponin I result was increased (299 ng/L). ECG obtained on ER with ST segment elevation on inferior, and posterior RV leads and managed with fibrinolytic using Streptokinase with successful result.
Discussion: Chest pain is the usual manifestation of a myocardial infarction but atypical presentation without chest pain is known to occur, especially in patients with diabetes, those of older age, and patients with history of congestive heart failure or stroke. Patients with ACSs who present without chest pain are frequently misdiagnosed and undertreated.
Conclusion: Emergency department and coronary care unit personnel need to increase awareness of ACS patients. We need to be aware to prevent misdiagnosed and undertreated the painless myocardial infarction patient.

Keyword : *painless myocardial infarction, diagnosis*

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45. **Thyroid Storm in Pregnancy: A Disastrous Heart**

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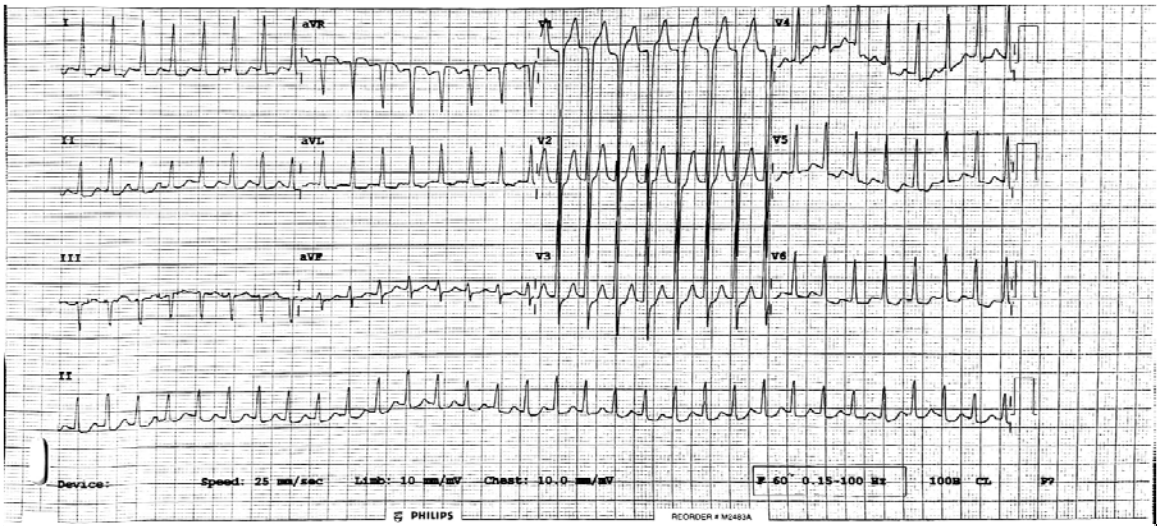
Background: Cardiovascular dysfunction is a severe complication in hyperthyroidism.[1] This report aimed to highlight the correlation between hyperthyroidism and cardiovascular dysfunction in pregnancy.
Case Report: A 28-year-old female, 32-33 weeks pregnant, on second phase of labor, was presented to the emergency department with dyspnea, palpitation and abdominal discomfort since 3 hours before admission. She was diagnosed with hyperthyroid and preeclampsia four months before, under nifedipine, propylthiouracil (PTU) and propranolol treatment. Physical examination was remarkable with blood pressure 200/120mmHg, heart rate 200 bpm, respiratory rate 40 per minute, body temperature 38°C, oxygen saturation 95%, rales on both lung field, and elevated jugular venous pressure. Electrocardiography showed regular narrow complex tachycardia, suspected as supraventricular tachycardia or atrial flutter 1:1. Laboratory studies demonstrated low thyroid stimulating hormone/TSH (<0,01µIU/ml) and high total thyroxine/T4 (>24µIU/ml). She was diagnosed with thyroid storm (TS) with Burch Wartofsky score 65. The patient treated with intravenous furosemide, dexamethasone, propranolol, and PTU. The tachyarrhythmia convert spontaneously followed by hemodynamic and congestion relieved in few hours after treatment. A month later echocardiography was performed, showed atrium dilation, concentric left ventricular hypertrophy, grade I diastolic dysfunction with good systolic function. TS is a life-threatening syndrome characterized by multiple organ failure due to severe thyrotoxicosis.[2] Labor is one of precipitating factor of TS. The most severe complication of TS is acute cardiac failure. Overt thyrotoxicosis leads to 50-300% increase in cardiac output, manifested as high output cardiac failure.[1] Tachyarrhythmia is another grave complication of TS, caused by Triiodothyronine (T3)-mediated increase in sympathetic tone, systolic depolarization and diastolic repolarization. Furthermore, T3 decreases action potential duration, the refractory period of atrial myocardium and atrial/ventricular nodal.[3] The most common arrhythmia in TS is sinus tachycardia and atrial fibrillation, infrequently supraventricular tachycardia.[4]
Conclusion: Early recognition of TS in pregnancy is important to minimize the cardiovascular complication.
Keywords: Thyroid heart disease, Supraventricular Tachycardia, Hyperthyroidism



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47. **Emergency Percutaneous Coronary Intervention after Return of Spontaneous Circulation in Acute Myocardial Infarction Patient with Ventricular Fibrillation: How It Should be Done?**

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Background: The incidence of sudden cardiac death due to ventricular arrhythmias in ST segment-elevation of myocardial infarction (STEMI) remains high. Around 6-8% of patients develop hemodynamically significant of ventricular tachycardia (VT) or ventricular fibrillation (VF). An emergency reperfusion is the most important in this phase as ischemia often triggers these arrhythmias. Here we report a case to show the important of emergency percutaneous coronary intervention (PCI) in ROSC patient.
Case Illustration: A 62-years-old male presented with chest pain. One hour prior to chest pain, the patient experienced syncope. The patient denied any prior illness and no family history of cardiopulmonary disease. Vital signs BP 72/48 mmHg, HR 55 bpm, RR 21 x/min, T 36.8^{o}C, SpO_2 95%. ECG showed sinus bradycardia and inferior STEMI. Thirty minutes during observation, the patient experienced cardiac arrest. CPR was performed for 15 minutes and defibrillation 360J was done once due to ventricular fibrillation. The patient underwent an emergency PCI. Coronary angiography showed total occlusion on RCA and moderate stenosis 70% on proximal LAD. The result of PCI and stenting showed TIMI 3 flow and moderate residual stenosis 70% on RCA. The 4th day of patient's follow up showed no chest pain, stable hemodynamics, and residual ST elevation in the inferior lead. The patient discharged and still on our close follow up in outpatient cardiology department. Ventricular arrhythmias become one of the major complications of STEMI, commonly occurred within early hours, and are also important prognostic factors. Urgent reperfusion therapy reduces the risk of VF/VT and cardiovascular death. *Strote, et al* reported that early catheterization was associated with improved survival. However, there is no guideline how emergency PCI in cardiac arrest should be done.
Conclusion: Emergency PCI after ROSC with prior STEMI should be done as soon as possible resulting in the better outcome.
Keywords: Cardiac arrest, PCI, STEMI, VF

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48. **Acute Coronary Syndrome and Acute Limb Ischemic Associated with Sepsis: A Complicated Case Report**

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Background: Inflammation plays a crucial role in atherosclerosis progression and induction of plaque instability, which is pathogenesis of acute coronary syndrome and acute limb ischemic.
Case Illustration: A 60-year-old diabetic woman came to emergency department with dyspnea for 6 hours, accompanied with chest pain, diaphoresis and cough. She had history of stroke 2 years before. At arrival, blood pressure was 90/palpation, HR 96 bpm, RR 36 times/min, and temperature 35.4^{o}C. Physical examination found coarse rales at both lung field, cool and clammy skin. Immediately, she was given intravenous fluid for early resuscitation.
Electrocardiography revealed ST-segment depression at inferior leads with Q pathologic at lateral leads. Leucocyte was 35,400/mm^3. High-sensitive troponin I was rose >40,000ng/L. Non-fasting glucose was 275mg/dL. Chest radiography suggested right pneumonia. She was treated with dobutamine and norepinephrine for the shock. She also got enoxaparin, acetylsalicylic acid, clopidogrel, broad-spectrum antibiotics and insulin.
After stabilized, she complained numbness at her left leg and could barely move her left foot. Her left foot was cold and cyanotic with no lesion. Left dorsalis pedis artery was absent. Left popliteal artery was faintly palpable. Lower limb CTA showed severe stenosis at popliteal artery and dorsalis pedis artery not filled by contrast. Then, she was referred to tertiary hospital for further management. Coronary and peripheral artery diseases are pathologically rooted in atherosclerosis with similar major risk factors. Presence of PAD in patient with CAD increases risk of cardiovascular events, with inflammation as strong risk factor. Infection is one of the most common factors affecting inflammation, which plays a crucial role in atherosclerotic progression and may lead to ACS by induction of plaque instability. The recent data suggest that infection may also cause ALI through direct contamination of the vascular wall, acceleration of systemic immunological reactions, or combination of both.
Conclusion: Infection may play a role in pathogenesis of coronary and peripheral arteries diseases.
Keywords: Coronary Artery Disease, Acute Coronary Syndrome, Peripheral Artery Disease, Acute Limb Ischemic, Sepsis.

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49. **Multiple Intracardiac Thrombus and Deep Vein Thrombosis in Woman with Peripartum Cardiomyopathy: A Case Report**

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Case Illustration: A 36-year-old woman came to ER complaining dyspnea for 2 months that worsened in 2 days. She also experienced pain in her left leg. She had a history of normal vaginal birth 4 months ago, which was her second. Both of her pregnancy and medical history were unremarkable. From examination showed normal blood pressure, tachycardia, elevated JVP, S3 gallop heart sound, bibasilar rales and lower limb edema. ECG result was sinus tachycardia without ischemic pattern. Transthoracic Echocardiography (TTE) was performed, and showed dilatations of all heart chambers, decreased of LVEF (17%) and multiple intracardiac thrombus were found. Doppler limb ultrasound was also done, with DVT was found in left commune femoral vein. She administered with furosemide, bisoprolol, spironolactone, enoxaparin and warfarin. During admission, the symptoms were relieved. After 7 days patient discharged, and outpatient clinic follow-up was scheduled.
Discussion: Appearance of heart failure symptoms and signs added with dilatation of heart chambers and decreased of LVEF are meet the diagnostic criteria of PPCM. Pregnancy is a hypercoagulable state secondary to increased levels of some coagulation factors. Cardiac chamber dilatation and hypocontractility are also causing blood stasis and endothelial wall injury, thus can describe thrombosis in PPCM. The administration of diuretics, beta-blockers and MRAs are important to relieve the heart failure symptoms. In other hand, heparinization and warfarin administration are required for the management of thrombosis. Safety consideration for drugs administration in PPCM patient is important to prevent unwanted effects in both pregnancy and postpartum period.
Conclusion: PPCM is rare disease that require close monitoring and evaluation for its therapy. In other hand, thrombosis is one of complications that can be occur in PPCM patients. Proper and safe drugs administration are important to reduce morbidity and mortality on patients with PPCM.

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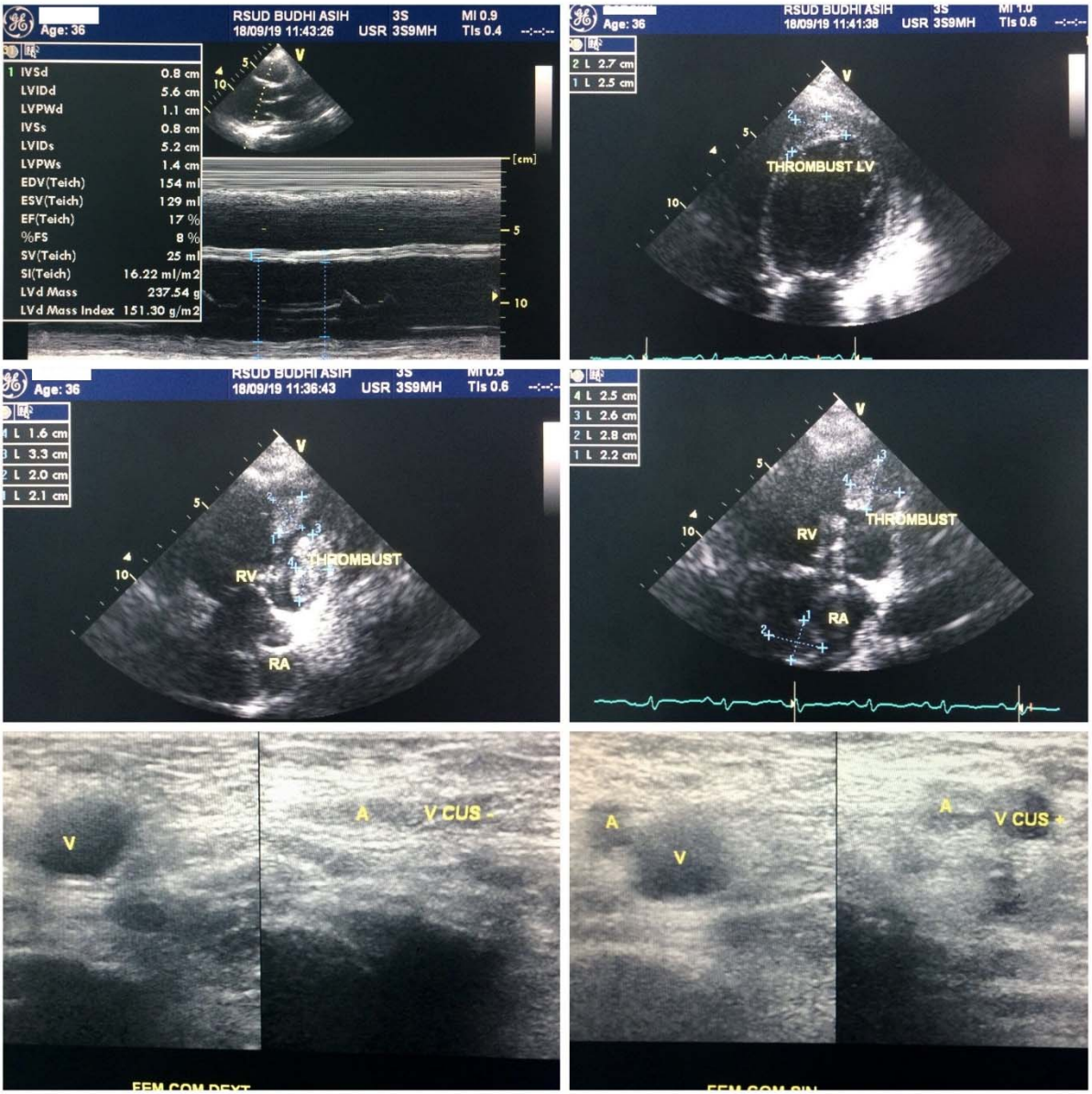

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50. **Percutaneous Coronary Intervention in Unreported Anomalous Origin of Right Coronary Artery Arising from Left Sinus of Valsava: a Case Report**

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Background:Anomalous origin of right coronary arteries (AORCA) are rare type of coronary artery anomalies (CAA). Symptoms of CAA could be vary, most are asymptomatic and accidentally recognized on coronary angiography. AORCA can lead to life threatening symptoms including angina pectoris, myocardial infarction, or sudden death, in the absence of atherosclerosis. Percutaneous coronary intervention (PCI) in AORCA can be technically challenging because selective cannulation of the vessel may difficult.

Case illustration and discussion A 61 years old man presented with intermittent typical chest pain and dyspnoe, which have worsened for last 3 hours. Electrocardiography (ECG) showed ST-elevation in lead V1-V4. Echocardiography findings were severe mitral regurgitation and troponin I test was negative. Patient was reffered to catheterization laboratory for PCI and revealed AORCA from Left Sinus of Valsava (LSV) with diffuse disease and critical stenosis. Culprit lesion of this case was stenosis in left anterior descending coronary (LAD), but we performed PCI in AORCA hence of right coronary artery (RCA) cannulation difficulty and maximum contrast agent have been used. PCI was successfully done and patient has been followed-up without any adverse cardiovascular events.

Conclusion We report the case of PCI in unreported AORCA arising from LSV with culprit lesion in LAD. The patient underwent successful PCI of diffuse disease and critical stenosis in AORCA. The key factors of successful PCI in AORCA are ingeniously detect the anatomic site of AORCA, then optimalize selection and skillfull manipulation of guiding catheter.

Keywords: PCI, AORCA, Case Report

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51. **Effectiveness of Dabigatran with Rifampicin in Tuberculosis Patient with Venous Thromboembolism : An Evidence Based Case Report**

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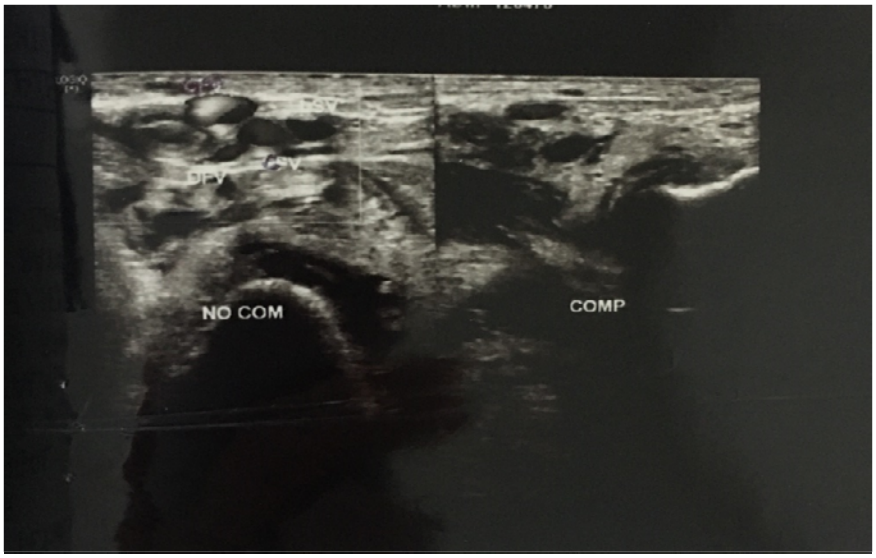
[2]Internal Medicine at Tobelo Regional General Hospital

Background The prevalence of deep vein thrombosis in patients with pulmonary tuberculosis is estimated to be around 3-4%. Dabigatran etexilate is a P-glycoprotein (P-gp) substrate, and therefore the bioavailability of dabigatran following oral administration of dabigatran etexilate may be altered by P-gp inducers, such as rifampicin.
Objective To examine the effectiveness of Dabigatran in combined with Rifampicin in clinical settings of Pulmonary Tuberculosis develops Venous Thromboembolism.
Case Illustration A 36-year-old male was referred to the emergency room with generalized weakness since 6 months. He developed shortness of breath, cough for 1 years and had been diagnosed with Pulmonary Tuberculosis but refused to be treated. Patient complained a moderately pain on his left calf for 2 weeks with likely DVT score of 6. Ultrasonography (USG) Doppler depicted a left lower extremity venous thromboembolism with cellulitis. Anti TB antimicrobials were started in combined with the available anticoagulant; New Oral Anticoagulants (NOAs) named Pradaxa (dabigatran). Unfortunately the patient discharged by his own request and we lost to follow the progress of his treatment.
Methods
Eligible articles were searched through PubMed and Google Scholar from 25th of April 2020 using MeSH terminology and keywords. Selected studies were included based on inclusion and exclusion criteria. Studies were extracted and clinically appraised following appropriate used study design.
Conclusion
There were lack of studies to compare effectiveness, safety, and long period follow-up of each NOAc and rifampicin to support our clinical settings in TB patient with no availability of LMWH and VKA. Data in two studies mainly focused on interaction between one of the novel agents and rifampicin, on a theoretical basis or in clinical practice which depicted the decrease of dabigatran's bioavailbility in combined with rifampicin.

Keyword : Dabigatran, Rifampicin, Drug Interaction, Venous Thromboembolism, Pulmonary Tuberculosis



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52. **Drug-Induced Brugada Pattern In Covid-19 Patient : Case Report**

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Background: Many drugs have been used in the treatment of ongoing pandemic Coronavirus Disease 2019 (COVID-19). Several existing drugs have the potential to induce Brugada ECG pattern. First identified in the 1990s, Brugada syndrome is the most common cause of sudden cardiac death in young Southeast Asians.

Case Presentation And Discussion: A 33 years old Indonesian man came to our hospital with positive COVID-19. He had no specific clinical complaints and no history of personal or family illness. The patient's physical examination was unremarkable. Initial workup revealed normal complete blood count, liver function test and chest X-ray. Electrocardiogram (ECG) showed sinus rhythm at 67 bpm. Azithromycin, Hydroxychloroquine, Oseltamivir, and Vitamin C was given as a regiment for the treatment of COVID-19. A second ECG shows type II Brugada pattern in lead V1 and V2. He denied any syncopal episodes and had never been informed of arrhythmia; there had been no sudden unexplained deaths in his family. Daily ECGs were performed and the regiment discontinued. The Brugada pattern had disappeared but ST segment elevation persisted. Cardiac enzyme and electrolyte test were within normal limits and the patient was given Bisoprolol. He was discharged on day 10 with a normal ECG. Each of the therapy regiment drugs have sodium channel blocking properties, and given in combination simultaneously may work synergistically and induce type II Brugada ECG pattern.

Conclusion: We report a drug-induced Brugada ECG pattern in a COVID-19 patient. Although our case is likely to be benign once the offending drug is discontinued, this patient should undergo further electrophysiology studies in National Cardiovascular Center Harapan Kita for a definitive diagnosis. Otherwise, this case can be used to raise the alarm about the cardiovascular effects of these drugs.

Keywords : Brugada Syndrome; Drugs; Electrocardiogram; COVID-19

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54. Ischemic Stroke due to Atrial Fibrillation : A Challenge for the Diagnosis and Treatment in Rural Areas

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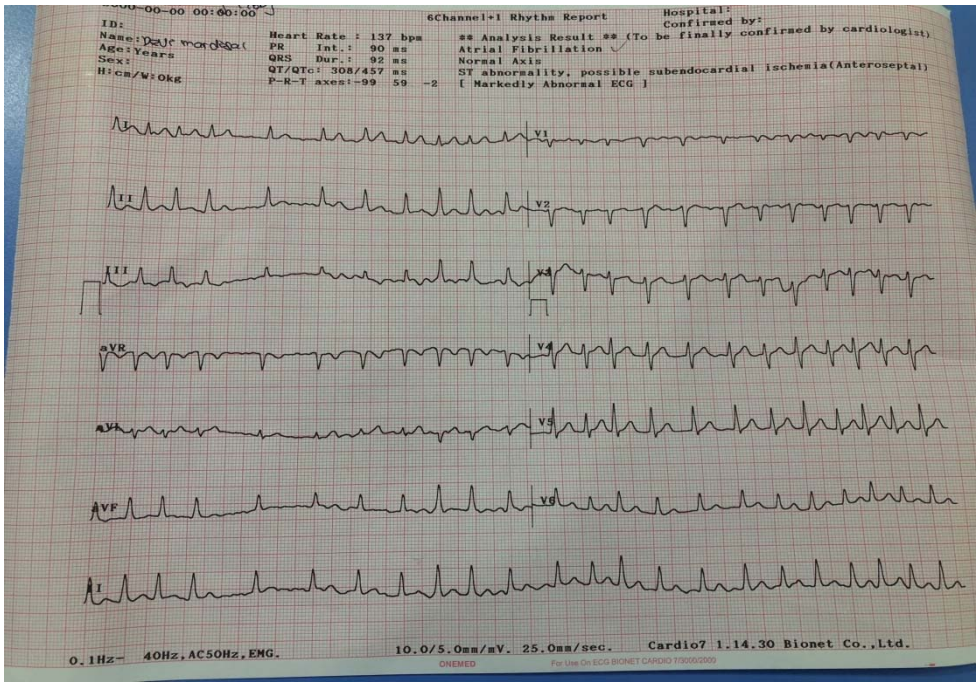
Background : Atrial Fibrillation (AF) is a chaotic rhytm due to multiple reentrant circuits within the atria. The absence of organized atrial contraction promotes blood stasis in the atria increasing the risk of thrombus formation, particularly in the left atrial appendage. Embolization of left atrial thrombi is an important cause of stroke, 5-20% of CVAs in nonrheumatic patients are due to atrial fibrillation.
Case Illustration : A – 67 – year old man came to the ER with the main complaint of sudden right – sided hemiplegia 30 minutes before being admitted. He also complained an agonizing palpitation. He had an uncontrolled hypertension. He had been an active smoker. No history of Type – 2 Diabetes Mellitus. No typical chest pain experienced. The blood pressure was 165/101 mmHg, the heart rate was irregular, the oxygen saturation was 95%. The cardiac examination revealed irregular heart beats, a 3/6 pansystolic murmur on the apex. The lungs auscultation was normal. The random blood glucose level was 121 mg/dL. The ECG : RVR AF. The Chest X- Ray : Cardiomegaly, No pleural effusions, no infiltrates. The neurologist administered 320 mg – aspilets and 500 mg - citicoline orally. The internist gave 20 mg – Rivaroxaban orally , 5 mg – bisoprolol, 8 mg - candesartan and 30 mg – lansoprazole. The patient was referred to RSUP M. Djamil, Padang , for undergoing Head CT Scan and Transesophageal Echocardiography (TEE).
Conclusion : All doctors working at rural areas with no sophisticated medical facilities should be confident in strengthening the history taking and physical examination because those two modalities combined with scoring systems and laboratory findings are enough to handle the urgent phase of medical cases.
Keywords : Ischemic Stroke, Atrial Fibrillation, Rural Areas



Picture 1 : ECG

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55. **Heart Failure Reduced Ejection Fraction (HFrEF) in a 27-year-old Man Caused by Atrial Mass Suspected Myxoma: A Case Report**

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Background: Heart Failure with Reduced Ejection Fraction (HFrEF) was uncommon occurred in young aged patient whose had not shown any comorbidities. Cardiac myxoma accounts for 50% of benign primary cardiac tumor has vary clinical manifestation from asymptomatic to dyspneu, syncope, embolism symptoms, heart failure and sudden cardiac death.
Case Description: A 27-year-old man was admitted with 5 months of shortness of breath and tiredness, which getting worse when patient did physical activity. Patient admit that he has history of difficulty to walk more than 20 meters, sleeping with 2 pillows, syncope, swollen feet, and weight loss. Patient was on chronic heart failure treatment since October 2019. Physical examination reveal rales at both lung, murmur at tricuspid and mitral area. Transthoracic echocardiography showed hiperechoic right atrial mass suspect myxoma, pericardial efussion, mild mitral regurgitation, moderate mitral stenosis, and pulmonary hypertension. Patient treated with Furosemide, Aspilet, ISDN, Opiprol, Captopril, and Spironolactone. Patient was assesed with Heart Failure Functional Class NYHA III with right atrial mass suspected myxoma and refered to other advance hospital for further examination and treatment. Atrial myxoma was commonly reported in female patient and located in left atrial. Dyspneu, palpitation, and syncope were the most common clinical manifestation of atrial myxoma. Heart failure in right atrial myxoma is a rare case. Two case reports showed swollen feet were presented. Both transthoracic and transesophageal echocardiography were useful in detection of atrila myxoma. Surgical resection with negative margins provides the greatest chance for survival.
Conclusion: Atrial myxoma can be manifested HF. Echocardiography examination can be a useful screening device of atrial myxoma in young-aged patient with HF.

Keywords: Right atrial myxoma, heart failure, echocardiography

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56. **A Rare Case : Incidence of New Inferior-Right Ventricular Myocardial infarction After Thrombolytic Therapy in Extensive Anterior Myocardial Infarction**

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Background : Acute occlusion of the left anterior descending coronary artery (LAD) generally results in ST segment elevations in precordial leads. The occurrence of new inferior-right ventricular (RV) myocardial infarction after occlusion of LAD is very rare. We describe an acute inferior RV myocardial infarction right after thrombolytic of anterior myocardial infarction.

Case Illustration And Discussion : A 55-years old female complained of chest pain 6 hours beforehand. ECG was revealed ST-Segment elevation in lead V1-V6, I and aVL. Patient was given streptokinase 1.5 million unit. One hour after thrombolytic, evaluation ECG was revealed resolution ST elevation in anterior lead, but there was found a new ST-Segment elevation in lead II, III, aVf, V3R, V4R, and V5R. Coronary angiography was performed, with result was CAD1VD with total occlusion in proximal right coronary artery (RCA) and 40% occlusion in mid LAD. PCI was done to proximal RCA with thrombolysis in myocardial infarction (TIMI) flow III. A possible mechanism of this phenomenon is the first ischemic event in LAD causing impairment of blood flow to RCA or increased catecholamine surge and inflammatory response caused by the occlusion of the LAD causing thrombosis in RCA. Therefore, coronary angiography after suspected new myocardial infarction was necessary to make sure which one the culprit lession that need to be revascularized.

Conclusion : New myocardial infarction at a different location after thrombolytic can occur in some cases due to the surge of catecholamines and the inflammatory response that causes myocardial infarction in other locations. Coronary angiography to confirm culprit is very important to asses the culprit lesion and whether was need to be intervented

Keywords: Myocardial infarction, thrombolytic, culprit

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57. **Case Report: Cerebrovascular Accident After Percutaneous Coronary Intervention (PCI)**

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Background: The use of potent platelet inhibitors decreased the risk of major vascular event but at the same time increased the risk of bleeding. The combination of Aspirin and P2Y12 inhibitor, ticagrelor, are commonly used as dual antiplatelet (DAPT) for acute myocardial infarction (AMI) event. A study showed that patients with acute coronary syndrome (ACS) showed similar result for major bleeding or ICH between ticagrelor-compared to clopidogrel-treated patients.
Case Illustration and Discussion: A-58-year-old male with stable angina pectoris with positive treadmill test underwent Percutaneous Coronary Intervention (PCI) in LAD. Aspirin and ticagrelor were used after the current procedure. One-year earlier he underwent Primary PCI with two stents placement in the culprit vessel, RCA due to inferior wall STEMI with total AV Block. He received aspirin and ticagrelor in the beginning but due to frequent skin hematoma and hematuria during follow-up, this combination was switch to aspirin and clopidogrel. One-month after Primary PCI, another PCI procedure was performed in LAD. During clopidogrel and aspirin combination he developed seven times Transient Ischemic Attack (TIA) and was switched to aspirin and warfarin. The current PCI procedure the patient returned receiving ticagrelor 90-mg twice daily and aspirin 80-mg but two-months later, he had a severe headache and brain CT scan showed subarachnoid hemorrhage. DAPT was stopped for one month and returned to aspirin and clopidogrel.
Long-term use of ticagrelor is associated with lower thrombotic risks but also with an increased risk of bleeding. The rates of bleeding was numerically lower with the 60-mg dose of ticagrelor than the 90-mg dose. This case emphasized that a patient who had ticagrelor with a suitable dose can still experience major bleeding, a 90-mg dose of ticagrelor has more bleeding risk.
Conclusion: Ticagrelor usage with a suitable dose can result in major bleeding.
Keywords: *subarachnoid hemorrhage, dual-antiplatelet-therapy, ticagrelor*

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58. **Patient With Acute Cardiogenic Pulmonary Edema Patients (ACPE): When Do We Need Non-Invasive Ventilation?**

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Background : Acute cardiogenic pulmonary edema is a high mortality condition that must get fast and appropriate treatment. The use of non-invasive ventilation (NIV) can improve respiration and cardiovascular function earlier and can correct the condition of hypoxemia and respiratory distress quickly.
Case Illustration:A 55-year-old man came with complaints of severe shortness of breath. The patient has a history of heart disease but not routinely controlled. Physical examination found BP125/69, HR140x/min, RR32x/min, saturation 75%, and obtained fine wet crackles throughout the lung field. ECG obtained anterior Old Myocardial Infaction (OMI),chest x-ray obtained cardiomegaly with pulmonary edema. Laboratory results showed an increase in BNP (6634 pg/ml), BGA results obtained hypoxemic respiratory failure with PO_2 44.9mmhg and arterial lactate 5.8mmol/L. Patients were diagnosed with anterior OMI with ACPE with hypoxemic respiratory failure and then given diuretic, nitrate and NIV (CPAP with PEEP 5cmH_2O). Evaluation 3 hours post-therapy showed clinical improvement, PO_2 61mmHg, O_2 saturation 92% and lactate decreased by 1.6 mmol/L. NIV therapy was then continued and evaluate BGA revelaed 6 hours is PO2 106 mmhg saturation 98.5%.
Discussion:ACPE is one of causes of high respiratory failure. The diagnosis is based on clinical and diagnostic criteria. NIV is a method used to put positive pressure into the lungs without invasive devices. There are several NIV modes that can be used the most often is CPAP. In this patient the CPAP mode is chosen where the patient is given constant PEEP which aims to open alveoli at the end of expiration thereby increasing the surface area for oxygen diffusion. In these patients CPAP administration increased therapeutic success along with definitive therapy.
Conclusion: Rapid and appropriate management is needed in the management ACPE. Giving NIV in these conditions increases the success of therapy, especially in hypoxemic conditions.
Keywords: Acute cardiogenic pulmonary edema,NIV

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59. **Pulmonary Embolism With Right Atrial Mass, Thrombus Or Myxoma?**

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Background. Atrial thrombus and myxoma are the most common cardiac masses. In some cases, atrial thrombus may have stalk and mimics myxoma. Echocardiography plays an important role in determining strategy for further management.
Case Illustration and Discussion. A 41-year-old male was presented with progressive exertional dyspnea within a week ago. Patient was an active smoker and had no medical history recorded. Physical examination revealed BP 116/86mmHg, HR 114beats/min, RR 26breath/min, SpO2 97%, elevated JVP, cardiac gallop and varicose vein on the legs. There was no clinical sign of deep vein thrombosis, Wells & Geneva score showed probability of PE was low. Laboratory examination showed D-Dimer score was 5,4 and hsTrop I 49,2. Electrocardiogram revealed sinus rhytm, LAD, Inverted T-Waves V1-V4. Transthoracic echocardiography showed LV D-Shaped, long mass with stalk located from atrial septum moved to right ventricle with cardiac cycle, TR mild, TAPSE 19mm, EF 76%, CTPA showed emboli in bilateral pulmonary artery & superior vena cava. Patient was diagnosed with pulmonary emboli and right atrial mass, sPESI score ≥1, categorized as intermediate-low, treated with subcutaneus fondaparinux and antiplatelet. In this case the mass resembles a myxoma, patient was planned to TEE examination, but evaluate TTE showed no mass in right atrium and located in RV apex, the size 2,3cm, TR mild, TAPSE 18mm, TVG 60mmHg, EF 71%. The atrial mass disappeared after administration of anticoagulant, so that was concluded as thrombus. Planned TEE was cancelled, fondaparinux given to maximal dose. Follow up TTE showed there was small thrombus in apex and no TR, patient was discharge with oral anticoagulant. The source of thrombus in this case was predicted from varicose legs, meanwhile further laboratory and other assessment is needed.
Conclusion. Atrial thrombus can resemble a myxoma. Serial echocardiography examinations and adequate therapy can help diagnose and prevent unnecessary surgery.
Keywords: Pulmonary Embolism, Myxoma, Thrombus, Atrial Mass

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60. Secondary Hypertension Associated With Coarctation Of The Aorta : Role Of Echocardiography

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Background : Coarctation of the aorta is a rare cause of secondary hypertension and kind of congenital disorder characterized by discrete narrowing of the thoracic aorta adjacent to the ligament arteriosum with incidence of <1% as a cause of hypertension. CoA often asymptomatic and only identified when cardiac murmur revealed continued by echocardiographic examination on routine evaluation. Echocardiography is very important examination in the initial screening of CoA because of its widespread and non-invasive uses

Case illustration and discussion : 18-year-old man with main complaint easily tired during activities under treatment of hypertension. Physical examination showed that upper limb blood pressure was 149/77 mmHg, lower extremity was 89/66 mmHg with differences ≥20 mmHg of systolic pressure between upper and lower extremities. Systolic ejection murmur was found 3/6 ULSB to the infrascapular area. On echocardiographic examination from suprasternal view showed discrete narrowing distal to the subclavicula supporting the diagnosis of CoA with CW doplers in the coarctation area showing velocity of 5.3 m/s with a pressure gradient of 113 mmHg, which showed aortic coarctation haemodynamically significant and had indication for further interventional therapy. Thoracic CT scan and aortography confirm diagnostic of aortic coarctation with collateral.

Conclusion : Echocardiography still become important modality in the initial screening of aortic coarctation. Early diagnosis and immediate intervention by surgery or transcatheter need to be done on significance coarctation to avoid poor prognosis in the future

Keyword : *Coarctation aorta, Echocardiography*

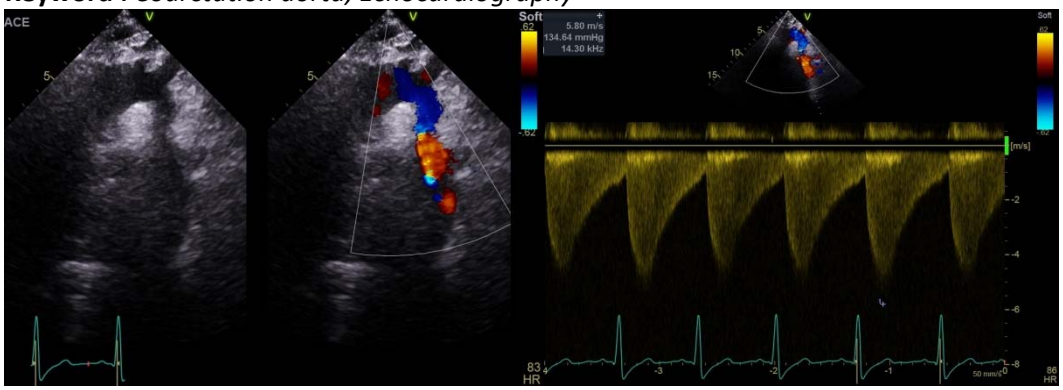

Fig 1. Discrete narrowing distal to the subclavicula and pressure in CoA region

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61. Intravenous Lidocaine Injection To Combat Life-Threatening Unstable Wide Complex Tachyarrhythmia In A Remote Public Health Center: A Peculiar Case

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Background: Wide Complex Tachyarrhythmias (WCTs) are potentially life-threatening cardiac dysrhythmias that often requires rapid, decisive intervention by using synchronized cardioversion or defibrillation as soon as possible, if haemodynamically unstable. However, manual defibrillators are not always available in a Public Health Center (*Puskesmas)*, furthermore in a remotely located one. This case aims to convey the viability of intravenous lidocaine as a possible treatment for an unstable WCT in a remote facility where defibrillator is not present, and transfer was improbable.
Case Description: A 51-years old female was admitted to the ER of a *Puskesmas* in a far-off village with a sudden-onset palpitation and dyspnea since 20 minutes prior. Neither angina nor orthopnea were present. The patient was fully conscious with palpable carotid pulsation. Physical examinations showed BP of 50/palpation, RR 25 x/min, SpO2 93%, and cold extremities. ECG showed irregular WCT with HR of 210BPM. There was no manual defibrillator available. With the clinical condition of the patient and distance to the nearest hospital, transfer was infeasible. Thus, after careful considerations, a 40mg Lidocaine 2% IV bolus injection was done. The ECG converted back to sinus rhythm afterwards with HR of 82BPM, BP gradually increased to 100/70 mmHg. Complaints of palpitation and dyspnea subsided, the patient was then transferred to the nearest hospital.Findings from history taking, PE, and ECG were consistent with unstable polymorphic VT diagnosis, which according to the ACLS guidelines should be treated primarily with unsynchronized defibrillation. However, such action could not be performed. Therefore, although the use of lidocaine on the 2018 update of ACLS is intended to be antiarrhythmic prophylactic administration for cardiac arrest with VF/pVT, in this case it was the only viable treatment.
Conclusion: Intravenous lidocaine might serve as a viable treatment for unstable WCT in a setting where manual defibrillators and transfer access are unavailable.

Keywords: Cardiovascular Emergency, Unstable Wide Complex Tachyarrhythmia, Intravenous Lidocaine, Remote Healthcare Facility.

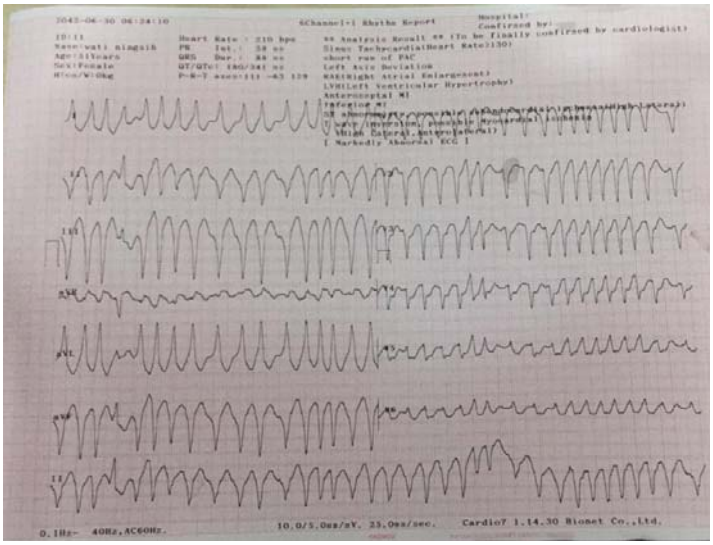

Figure 1. Initial ECG, Irregular Wide QRS Complex Tachyarrhythm

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62. **No-Reflow Phenomenon: A Complication of Late Onset Revascularization**

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Backgrounds: Revascularization strategies is a mandatory choices for STEMI with hemodynamic instability. Late onset of this kind of strategies could progress into reperfusion failure at the microvascular level is a condition known as no-reflow (NR). No-reflow can result in poor healing of the infarct and adverse left ventricular remodeling, increasing the risk for major adverse cardiac events, including congestive heart failure.
Case Illustration: A 67 years old man referred from other hospital with recent anterior STEMI 10-day onset non revascularization who got acute heart failure, diabetes, severe lung infection. He got standard therapy for ACS,acute heart failure, and glucose control. He had been intubated and supported with inotropic for several days. Echocardiography was shown normal cardiac chamber and decrease LVEF 32% with extensive anterior wall motion abnormality. The angiography showed a CAD 2VD with total occlusion in mid LAD. Then some anticoagulant and GpIIb/IIIa inhibitor injected intracoronary. Stent implanted properly but still no re-flow after given another anticoagulant, GpIIb/IIIa inhibitor and trombosuction procedure. The procedure resulted TIMI flow I, no myocardial blush then considered to be finished. Coronary no-reflow phenomenon occurs when cardiac tissue fails to perfuse normally despite opening of the occluded vessel. The goal of reperfusion is to resume normal blood flow to the cardiac tissues, and not just to achieve an open epicardial artery. The underlying pathological mechanisms are now known to include injury related to ischemia reperfusion, endothelial dysfunction, and distal thromboembolism. If blood flow cannot enter or leave an area of necrotic myocardium, inflammatory cells and humoral factors, for proper healing cannot access the tissue. Administration of vasodilator drugs to “open” the microcirculation is avoided due to low arterial pressure during PCI procedure.
Conclusion: Prevention is effective to reduce no-reflow occurrence with optimal medical therapy and proper timing alongwith revascularization techniques. No-reflow management aims to improve coronary blood flow at the level of microcirculation to reduce myocardial damage and improve clinical outcome.
Keywords: no-reflow, STEMI, revascularization

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63. Ventricular Septal Rupture after Acute Myocardial Infarction : A Case Report

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Background: Ventricular septal rupture (VSR) is a rare mechanical complication following acute myocardial infarction (AMI), with high mortality rate. Haemodinamic deterioration and cardiogenic shock is common in such cases. Despite significant advances in the diagnosis of AMI and early management with primary percutaneous coronary intervention (PCI), VSR can develop from hours to weeks after treatment.
Case Presentation: A 65-year-old female came to our ER, 3 hours after the onset of chest pain. She was presented with anterior STEMI and cardiogenic shock. Angiography revealed 90% stenosis in distal LCX and total occlusion of mid-LAD. Primary PCI was performed to mid-LAD with satisfactory result. 24 hours after the procedure, patient returned to ICU with loss of consciousness, cardiogenic shock, ventricular arrhythmia and multi organ failure. Transthoracic echocardiography (TTE) revealed a 6 mm VSR with left to right shunt. The patient was treated with mechanical ventilator and medical treatment. Unfortunately, the patient died 72 hours after admission to ICU. In this case, stenosis of LAD and LCX resulted in AMI, and subsequently VSR occurred. VSR repair is necessary in all cases due to high mortality rate if left untreated, however, the timing of the operation should be decided individually for every patient. Immediate surgical repair or percutaneous closure are indicated in this patient, however, because of the limited facility and high risk to refer the patient to another hospital due to her haemodynamically unstable condition, we decided to optimize the conservative treatment.
Conclusion: High clinical suspicion and thorough physical examination can help identify VSR early and should be included in differential diagnosis of patients presenting with AMI and cardiogenic shock. Since VSR complicating AMI has a high mortality, the early treatment of primary diseases and revascularization can prevent or reduce its occurrence.
Keywords *: Ventricular Septal Rupture, Acute Myocardial Infarction, Cardiogenic Shock*

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64. **The Management of Severe Bleeding in Acute Limb Ischemia (ALI) and Coronary Artery Disease (CAD)**

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Background: ALI is characterized by sudden decrease in arterial perfusion of the limb and requiring urgent management. The combination of Lower Extremities Artery Disease (LEAD) and CAD is associated with heightened ischemic risk.
Case illustration: A 67-yo man was presented with left and right leg pain as the chief complaint within 4-days with history of type-2 diabetes and smoking. We found BP 130/70 mmHg, HR 76x/min, RR 20x/min, SpO_2 100%, and temperature of 37ºC. Pulsation of the right femoral diminished, no pulsation of the right popliteal, anterior tibialis, and posterior tibialis arteries. ECG obtained anteroseptal *Old Myocardial Infarction* (OMI). Doppler showed ALI right inferior extremity on external illiaca artery. *Digital Subtraction Angiography* (DSA) showed occlusion total on right external illiaca artery.. Echocardiography showed *Regional Wall Motion Abnormalities* (RWMA), EF 20-26%. Patient was diagnosed with ALI Rutherford III pro amputation trans tibia right cruris and anteroseptal OMI. After being amputated he had bleeding in his right leg, melena and hematuria. Laboratory showed anemia 8,8 g/dl, prolonged APTT 97,5 second, then given RBC transfusion, Aspirin, Clopidogrel and Warfarin stopped. Consider the triple therapy to dual therapy with clopidogrel and warfarin. Patients with clinical of ALI should be addressed to emergency center with vascular team for diagnosis and management. Antiplatelet agents are used in patients with LEAD to prevent limb related and general CV events. DAPT may be considered in patients with multiple coronary vessel disease diabetic patients with incomplete revascularization. In patients with LEAD, DAPT was associated with MI and high bleeding risk. In these patient DAPT therapy in LEAD patient increased the bleeding risk, the definitive therapy is needed.
Conclusion: Specific management is needed in patient with severe bleeding. Stopping DAPT, OAC, and RBC transfusion in these patient can make the condition better to away the life threatening bleeding.
Keywords: Acute limb ischemia, severe bleeding

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65. **The Management of Severe Bleeding in Acute Limb Ischemia (ALI) and Coronary Artery Disease (CAD)**

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Background: ALI is characterized by sudden decrease in arterial perfusion of the limb and requiring urgent management. The combination of Lower Extremities Artery Disease (LEAD) and CAD is associated with heightened ischemic risk.
Case illustration: A 67-yo man was presented with left and right leg pain as the chief complaint within 4-days with history of type-2 diabetes and smoking. We found BP 130/70 mmHg, HR 76x/min, RR 20x/min, SpO_2 100%, and temperature of 37ºC. Pulsation of the right femoral diminished, no pulsation of the right popliteal, anterior tibialis, and posterior tibialis arteries. ECG obtained anteroseptal *Old Myocardial Infarction* (OMI). Doppler showed ALI right inferior extremity on external illiaca artery. *Digital Subtraction Angiography* (DSA) showed occlusion total on right external illiaca artery.. Echocardiography showed *Regional Wall Motion Abnormalities* (RWMA), EF 20-26%. Patient was diagnosed with ALI Rutherford III pro amputation trans tibia right cruris and anteroseptal OMI. After being amputated he had bleeding in his right leg, melena and hematuria. Laboratory showed anemia 8,8 g/dl, prolonged APTT 97,5 second, then given RBC transfusion, Aspirin, Clopidogrel and Warfarin stopped. Consider the triple therapy to dual therapy with clopidogrel and warfarin.
Discussion: Patients with clinical of ALI should be addressed to emergency center with vascular team for diagnosis and management. Antiplatelet agents are used in patients with LEAD to prevent limb related and general CV events. DAPT may be considered in patients with multiple coronary vessel disease diabetic patients with incomplete revascularization. In patients with LEAD, DAPT was associated with MI and high bleeding risk. In these patient DAPT therapy in LEAD patient increased the bleeding risk, the definitive therapy is needed.
Conclusion: Specific management is needed in patient with severe bleeding. Stopping DAPT, OAC, and RBC transfusion in these patient can make the condition better to away the life threatening bleeding.
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66. **Eisenmenger's Syndrome in a 12-years-old Girl Suffering Ebstein's Anomaly and Atrial Septal Defect with Spiked Helmet ECG Pattern: A Case Report**

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Background: Ebstein's anomaly (EA) is rare congenital heart disease. It might be associated with atrial septal defect (ASD). If untreated, both conditions might develope Eisenmenger's syndrome (ES) and arrhythmias in which mortality remains high. We hereby try to emphasize on how detecting critically-ill patient using potential novel ECG marker called the spiked helmet pattern.
Case Illustration And Discussion: A 12-year-old girl came to hospital with dyspnea and cyanosis on her lips. No previous cardiac diseases recorded. Her blood pressure was 106/68mmHg. She had tachypnea, tachycardia and 39% oxygen saturation. Physical examination found central cyanosis, hepatomegaly, increased jugular venous pressure and systolic ejection murmur on tricuspid area. Electrocardiography showed SVT with spiked helmet pattern on inferior and anterolateral leads. Chest x-ray suggested cardiomegaly. Echocardiography showed tricuspid regurgitation, atrial septal defect and Ebstein's anomaly. Her hemoglobin was high. Patient treated with digoxin, diuretic and oxygen therapy. Unfortunately, the patient passed away on the third day of admission.
EA affects the tricuspid valve with right ventricular myopathy. Dilatation of right atrium and right ventricle associated with atrioventricular accessory pathways generating SVT. Untreated ASD may precipitate ES resulting in cyanosis and heart failure. Erythrocytosis occured secondary to chronic cyanosis.
The spiked helmet pattern described as ST-segment elevation with the upward shift starting before the QRS complex. Several reports stated that it was associated with critically-ill patient but the mechanism remains unknown.
Conclusion: Undiagnosed EA patients with ASD could lead to ES and arrhythmias with high mortality. Spiked helmet ECG pattern could be a warning indicator of critically-ill patient.

KEYWORD: Ebstein's anomaly, ASD, Eisenmenger's syndrome, spiked helmet pattern

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67. **Thrombolysis with Streptokinase in STEMI Patient Who Have Received Fondaparinux Anticoagulant Injection Therapy: A Case Report**

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Background Myocardial infarction (MI) is a common disease with high mortality rate worldwide. The principal management for the ST elevation subtype of MI (STEMI) is immediate revascularization either with the primary percutaneous coronary intervention (PCI) or with the thrombolytic agents. Fibrinolytic therapy is an important reperfusion strategy in settings where primary PCI cannot be offered. Fibrinolytic therapy is recommended within 12 hours of symptoms onset if primary PCI cannot be performed within 120 minutes from STEMI diagnosis.

Case Illustration And Discussion A 47-years-old man, with a chest pain 4 hour before going on ER. The blood presure was 100/60 without a sign of shock, and ECG was present inferoposterior STEMI with depression of ST segment in V1-V3. Before referred to our hospital, parenteral anticoagulant (fondaparinux) was given in other hospital 2 hours before. Our hospital was not a PCI center, and time that needed to reach PCI center was more than 120 minutes. Fibrinolysis strategy was the option. A sreptokinase just given full dose for 60 minutes. During trombolytic therapy, there was no bleeding complication. But the patient suddenly experienced cardiogenic shock, Killip IV. The vital sign was decrease, BP was 70/50, HR 52x/sec, with dypsnea, rhonkhi and followed by cardiopulmonary arrest in pulseless electrical activity. CPR and intubation was given almost 30 minutes but eventually patient died in asystole. Cardiogenic shock continues to be the most common cause of death in patients hospitalized with acute myocardial infarction.

Conclusion A full dose of Streptokinase can be given to MI patients whom have given intravenous anticoagulant therapy before because there was no specific guideline that explain it, although there is no relative nor absolute contra-indications in this patient

Keywords : Thrombolytic, Anticoagulant, Acute Myocardial Infarction

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68. **Aortic Dissection in Marfan Syndrome Patient Diagnosed Using echocardiography in Limited Resources Setting**

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Background Marfan Syndrome (MS) is a rare autosomal dominant disorder with acute aortic dissection (AD) as the most fatal complication. CT-angiography (CTA) is the imaging test of choice; however, not every Indonesia hospitals have CT-scan, here we reported a case of MS patient with acute AD diagnosed using transthoracic-echocardiography (TTE).

Case Illustration A 17-year-old male visited our emergency department with a chief complaint of shortness of breath since 3 days ago. He also complained chest pain that occurred once a week since the last 3 months. On physical examination, his BP 110/60 mmHg, HR 110 bpm and RR 24 bpm. He had several features of MS. His Revised Ghent Nosology score was 7. His lung and heart sounds were normal. No family history of MS or other heart disease was reported. A-12-lead-electrocardiography showed sinus tachycardia with left ventricular hypertrophy. The next day, patient suddenly complained chest and abdominal pain with BP of right arm 115/60 mmHg and 110/60 mmHg on left arm, normal chest and abdominal examinations. He underwent TTE testing with the result global hypokinetic, LVEF 25%, aortic dilatation (sinus valsava) 6.73 cm and intimal flap up to abdominal aorta. The patient was urgently referred to tertiary hospital.

TTE may be used as initial modality in diagnosing AD, if CTA is not available. The classic finding of AD on echocardiography is demonstration of intimal flap presence that divides aorta into two lumens. Previously reported, TTE has sensitivity 78-90% and 31-55% for diagnosing ascending and descending AD, respectively. Several windows views may be utilized for aorta assessment. However, several limitations made negative TTE does not rule out AD.

Conclusion AD is a fatal complication among MS patients. TTE may be used as the initial imaging modality when AD is clinically suspected in emergency setting and CTA is not available.

Keywords: Marfan Syndrome; Aortic Dissection; Grown-Up Congenital Heart Disease; Echocardiography

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69. **THE SPECTRUM OF ACUTE CORONARY SYNDROME IN 61 YEARS OLD MAN A CASE REPORT**

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Background: coronary syndrome (ACS) refers to a spectrum of clinical presentations ranging from unstable angina, non ST-segment elevation ACS (NSTE-ACS) to presentation found in ST-segment elevation ACS (STE-ACS). More than 90% of ACS occured as a result from ruptured atherosclerotic plaque followed by platelet aggregation and formation of intracoronary thrombus.
Case: A-61 years old man with history of type II diabetes mellitus was admitted to emergency department with typical chest pain since 1,5 hours which didn't alleviate with rest along with dyspnea, diaphoresis, nausea and vomiting. Initial electrocardiography (ECG) showed ST-segment depression in lead II, III, AVF and V2-V6. A serial ECG was done 30 minutes afterwards, showing ST-segment elevation in lead II, III, AVF as well as V2-V6 along with occasional Ventricular Extrasystole (VES). Chest x-ray revealed cardiomegaly, pulmonary edema and pneumonia. Laboratory finding showed increased leucocyte count 14.89 (10^3/µL) and negative troponin T (<50 ng/L) in the first examination. Six hours later troponin T increased >2000 ng/L. All the findings lead to the diagnosis of STE-ACS. Patient underwent successful thrombolysis therapy and transferred to the Intensive Care Unit (ICU). Patient was in stable condition until hospital discharge.
Conclusion: In the present case, the serial ECG helps physician to be aware of the spectrum of ACS that can happen in patients with chest pain. Because STE-ACS is an emergency case that required timed thrombolysis or other revascularization therapy, without serial ECG diagnosis of STEMI would have been overlooked and resulted in delay.
Keywords:ACS, STEMI, serial ECG, chest pain.

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70. A Case Report of Teenager with Heart Failure and Atrial Fibrillation Associated with Hyperthyroidism

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Background : Hyperthyroidism can affects on cardiac function and structure. In rare cases, untreated hyperthyroidism can causes heart failure and atrial fibrillation.
Case Report : A 17 year old boy with hyperthyroidism history since 8 years ago presented to hospital with dyspnea since 3 days. On physical examination, blood pressure 90/70mmHg, pulse rate 78bpm and irregular, respiratory rate 32bpm. From cardiovascular examination obtained jugular vein pressure was elevated, heart rate 128bpm with irregular rhythm, murmur and gallop were heard. Electrocardiogram showed atrial fibrillation and left ventricular hypertrophy. Chest x-ray revealed pleural effusion on the right lung and cardiomegaly. The result of thyroid function test was hyperthyroid and arterial blood gas analysis showed respiratory alkalosis. The patient was diagnosed with thyroid heart disease and receive furosemide, spironolactone, candesartan, digoxin, propylthiouracil, bisoprolol, and methylprednisolone. After receiving the therapies, the patient gradually improving. Hyperthyroidism in children has high relaps rate (30%) as remission is achieved after a first course of antithyroid drugs. More prolonged medical treatment may increase the remission rate up to 50%. Thyroid hormone especially triiodothyronine (T_3) has effects on cardiac myocytes and endothelial cell, that regulated by SERCA2, PLB, ion channel activation, and specific signal transduction pathways. Excessive thyroid hormone causes a hyperdinamic circulation hyperdynamic circulation, characterized by increased cardiac contractility and heart rate, increased preload, and decreased systemic vascular resistance (SVR), resulting in significantly increased cardiac output. Long term untreated hyperthyroidism can lead heart failure and atrial fibrillation.
Conclusion : Hyperthyroidism causes increased cardiac output and left ventricular hypertrophy in the early stage. In the late stage, it is can induces biventricular dilatation and congestive heart failure. Atrial fibrillation can increase morbidity of untreated hyperthyroidism. Early and effective treatment of hyperthyroidism is key in preventing cardiac complications.

Keywords: hyperthyroidism, heart failure, atrial fibrillation.

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71. **Acute Pericarditis in Graves' Disease, Complicated by Sepsis: A very rare case**

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[3]Cardiologist, Depok City Hospital, Depok, Indonesia

Background Autoimmune disease is responsible for acute pericarditis (AP) in 2–7% of cases. We suggest that AP may be a very rare complication of hyperthyroidism. Thyrotoxicosis in Graves' Disease (GD) could be triggered by non-compliance to treatment and infection. However, the mechanism remained unclear.
Case Description A 28 year-old male was admitted to ER with sharp chest pain 30 minutes prior and abscess on chin since 3 days ago. He had been diagnosed with hyperthyroid and stopped taking the medicine since 4 months ago. ECG showed diffuse ST-segment elevation and PR-segment depression on lead II. Laboratory showed leukocytosis, normal troponin I, decreased TSH-s, and increased FT4 levels. Erythrocyte sedimentation rate and C-reactive protein were also increased. He was diagnosed with AP, induced by thyrotoxicosis and sepsis. High dose aspirin, colchicine, PTU, propranolol, and IV antibiotics were received. After 4 days hospitalization, ST-elevations were relieved and FT4 levels decreased. However, the sepsis worsened and the patient did not survive.
Discussion Patients with GD have circulating autoantibodies that might interact with receptors in pericardium, which could induce secretion of chemoattractant proteins and cytokines locally, resulting in pericarditis. This autoinflammatory response might play a significant role in producing the cardiac event in this patient. Injury to pericardium could also release cardiac antigen that could activate adaptive immune response locally, suggesting autoimmune mediated pericarditis. Additionally, AP can also develop in condition caused by accompanying comorbidity (infection). Sepsis may worsen the condition and it can lead to multi-organ failure despite adequate pericarditis and GD treatment.
Conclusion Although rare and the mechanism is not yet elucidated, clinicians should be aware that AP may occur in GD patients with poor compliance. The presence of sepsis could complicate the conditions. Treatment should be focused to manage AP and GD simultaneously, also control the source of sepsis.

Keywords
Acute pericarditis, Graves' disease, sepsis

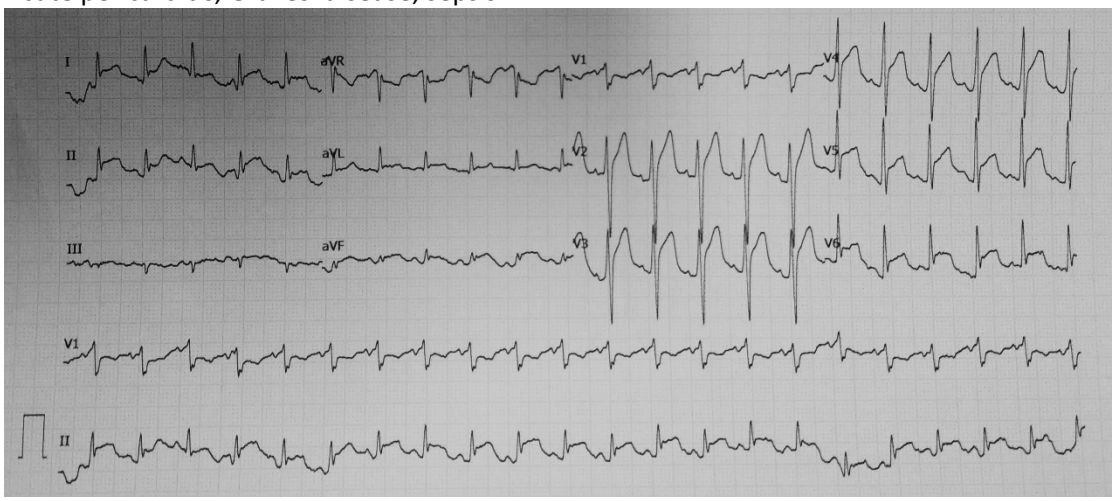

Figure 1. Electrocardiogram upon admission. Diffuse ST-segment elevation and PR-segment depression on lead II.

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72. Brugada-like Pattern ECG Changes in General Anesthesia; A Case Report

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[2.] Cardiologist, *dr. Suyoto Pusrehab Hospital, Ministry of Defence, Jakarta, Republic of Indonesia*

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Background : Brugada syndrome is a condition that causes disturbance of the heart's rhythm and associated with sudden cardiac death. This syndrome is most prevalent in men and individuals of southeast Asian descent, with a mean age of onset of symptoms at young-adult people. The diagnosis is challenging because of the often asymptomatic presentation.

Case Ilustration and Discussion : We hereby present a 45-years-old man come to ER due to accident in workplace. His hand have been cutted and manifested as an open-wounded-fracture in hands. In response of open-wounded-fracture, our orthopaedic surgeon decide to repair the wound in operating room and implanting an internal fixation. This man does not have a cardiovascular symptoms or events in history. This patient was diagnosed as Brugada-like pattern ECG type-1 based on ECG findings pre-operative procedure. In Anesthesia we used titrating-dose of propofol, muscle relaxant and some pain killer. A day after operative procedure, we found the ECG change to Type-2 Brugada-like pattern ECG. Two days after procedure, we found the ECG back to type-1 Brugada-like pattern ECG.

Conclusion : Patient with Brugada-like Pattern ECG has not neither significantly effect on haemodinamic nor cardiac rhythm during operation procedure in general anesthesia using propofol. Event tough, there are ECG changes in 24-48 hours after operation procedure. Further researches still needed for this study.

Keywords: Brugada syndrome, Propofol, General Anesthesia

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73. **Successfully Converted AVRT with WPW Syndrome after Digoxin Administration in 46 Years Old Male Patient at Rural Hospital: A Case Report**

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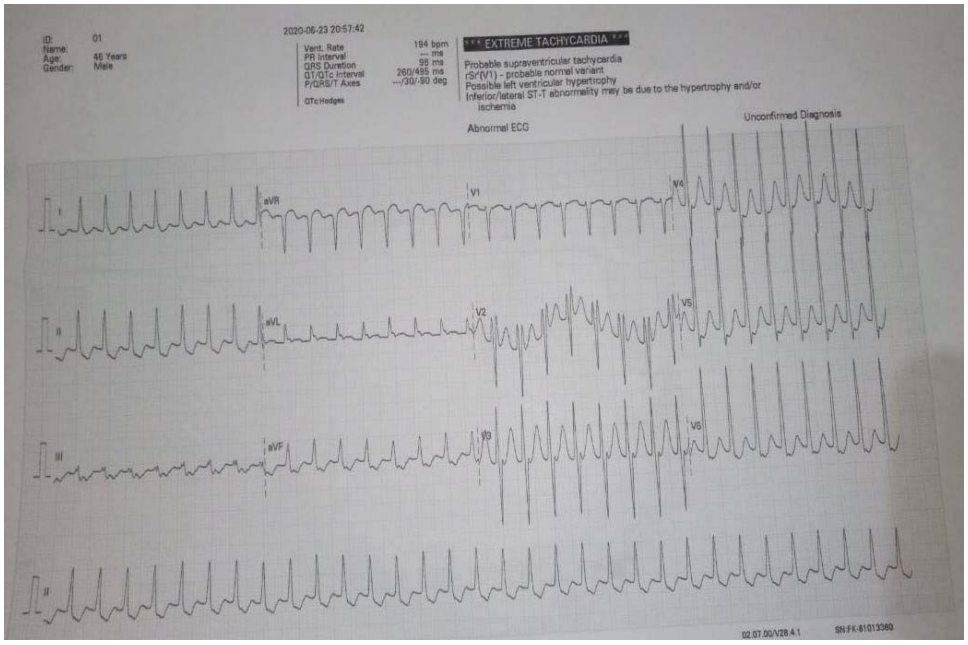
Background: Atrioventricular Reentrant Tachycardias (AVRT) is an abnormal condition where a person has reentrant conduction because of an accessory pathway, such as Wolf Parkinson White syndrome (WPW). Digoxin, an atrioventricular (AV) node blocker, usually is not a recommended first-line treatment of AVRT, especially with WPW.

Case Illustration and Discussion: A 46 years old man presented to the ER with continuous palpitations for 2 days. The patient has a history of similar palpitations a year ago and acute coronary syndrome 10 years ago. Examination revealed a fully awake patient, blood pressure of 139/73 mmHg, regular tachycardia (195 beats/minute), respiratory rate 20 times/minute, and temperature 37℃. The electrocardiogram showed a supraventricular tachycardia. The diagnosis of stable SVT was made. After the carotid massage was failed to restore the rhythm, 0,5 mg of Digoxin was injected. Electrocardiogram post-injection showed ECG sinus rhythm with a regular 50 beat/minute, short PR interval (<0,12”), and type A WPW pattern. The patient then treated with concor and clopidogrel in ICU and discharged after the third day of admission with stable condition.

Although was not a first recommended treatment of SVT especially AVRT, Digoxin still successfully converted the sinus rhythm in this patient. This is possibly due to that this patient has an orthodromic pathway of AVRT, where the impulse mainly conducted anterogradely via AV node that the reentrant conduction can still successfully blockade by AV nodal blocker such as digoxin. Even though, digoxin can even precipitate the tachycardia if the AVRT is antidromic that conduct retrogradely mainly via the accessory pathway.

Conclusion: Digoxin still is not a recommended early therapy of AVRT if is not clear whether the AVRT is orthodromic or antidromic.

Keyword:
AVRT, WPW, Digoxin, orthodromic.



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74. **Orthodromic Atrioventricular Reentrant Tachycardia in A Patient with The Wolff-Parkinson-White Syndrome: A Case Report**

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Background: The Wolff–Parkinson–White (WPW) syndrome is estimated to be one to three per 1.000 individuals in the general population. The WPW is a disorder characterized by presence of one or multiple accessory pathways (APs) that predispose patients to frequent episodes of arrhythmia, the most common is Atrioventricular Reentrant Tachycardia (AVRT) and Atrial fibrillation (AF).
Case*:* A 47-year-old male patient with a history of WPW Syndrome, presented with a complaint of palpitations without definitive trigger since 4 hours before admission to the emergency department. Chest pain and shortness of breath were not found. His physical examination and laboratory finding were normal. Initial Electrocardiography showed atrioventricular reentrant tachycardia with heart rate of 170 beats per minute. We performed valsalva maneuver causing spontaneous termination in ECG finding, that was WPW syndrome including a PR interval less than 0.12 seconds, slurring and slow rise of the initial QRS complex (delta wave), a widened QRS complex with a total duration greater than 0.12 seconds with heart rate 94 beats per minute. He was given a beta-blocker and was advised to undergo an electrophysiology study (EPS).
Discussion: The WPW syndrome is associated with a small but lifetime risk of catastrophic events and/or sudden cardiac death (SCD). EPS can be a useful tool in risk stratification. A short accessory pathway anterograde effective refractory period, inducibility of sustained tachyarrhythmias such as AVRT and/or AF and the presence of multiple APs are the strongest predictors of life threatening arrhythmias and SCD. Current guidelines in patients with WPW syndrome recommend an EPS with a liberal indication for Catheter ablation (radiofrequency ablation).
Conclusion: The patients with WPW syndrome should undergo an EPS and Catheter ablation as indicated to prevent Malignant Arrhytmias and/or Sudden Cardiac Death.

Keyword: Atrioventricular reentrant tachycardia, Wolff-Parkinson White syndrome, Sudden Cardiac Death.

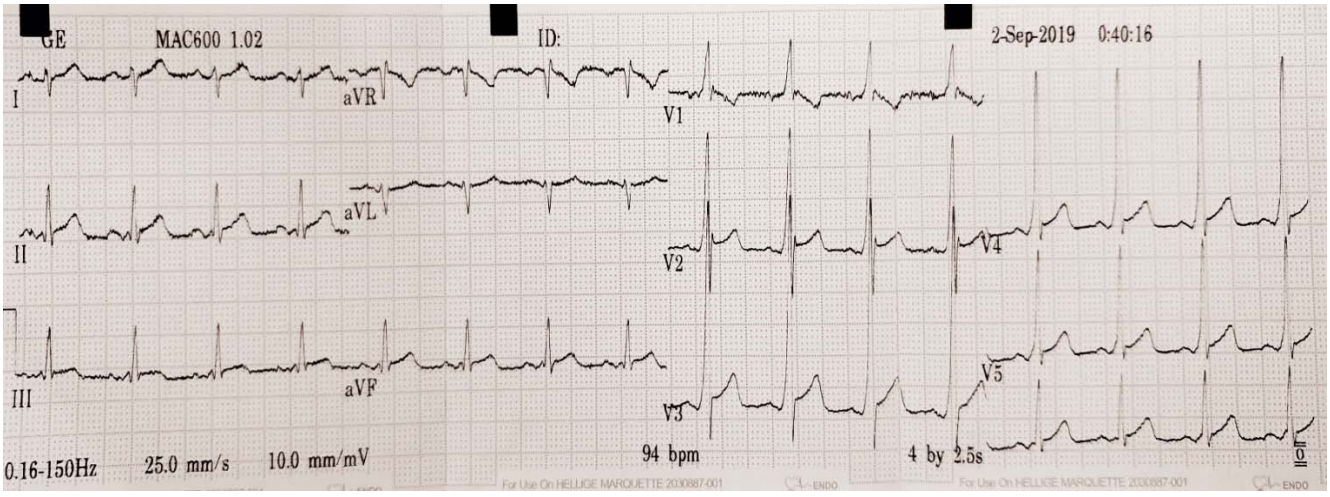

Figure 1. Electrocardiogram after valsalva maneuver causing spontaneous termination in ECG finding, that was WPW syndrome with heart rate 94 beats per minute.

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75. **Brain Abscess in Atrial Septal Defect Patient with Eisenmenger Syndrome**

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Background : Eisenmenger syndrome have an increased risk of developing brain abscess. Uncorrected cyanotic heart disease accounts for 12.8-69.4% of all published cases of brain abscess. The incidence is higher in young subjects in developed countries and immunocompromised patients, with oxygen saturation and content points as major factors in development of brain abscess. The most common site of abscess are in fronto-parietal region.

Case Illustration and Discussion: We report a case of 32 year old woman with left sided paralysis, seizures, fever, and history of dyspnea. Physical examination showed low oxygen saturation (mean SaO2 83%), right heart congestion, and clubbing finger in both sides of extremities. Blood gas analysis showed mean paO2 51 mmHg. Echocardiography showed secundum ASD with defect size 1.5-2.0 cm, Right to Left shunt, TR vmax 4.9 m/s. CT brain showed abscess within fronto-parietal area, size 3x3x2 cm, with midline shift to the left. The patient showing improvement in symptoms after burrhole aspiration, and discharge after 3 weeks hospitalized.

Eisenmenger syndrome has significant multisystem effects, resulting in vast spectrum of complications, either cardiac or non-cardiac such as infectious disease like brain abscess. Two conditions necessary for the formation, intermittent bacteremia and focal encephalomalacia. It occurred because the septal defect with the chance shunting of organisms and infected material directly into arterial system without pulmonary filtering, and additional features such as chronic hypoxemia, hypoxia, and hyperviscosity that make it more prone to abscess formation. The management ranging from medical or surgical intervention, or combination of both.

Conclusion: Brain abscess in Eisemenger syndrome patients is a complication that should be suspected in patients presenting with symptoms of central nervous system involvement. Proper management including risk reduction, prevention of complications, and theurapeutic intervention is essential to lead a better prognosis and improve patients quality of life.

Keyword: Brain Abscess, Eisenmenger Syndrome

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77. **A Case Report of Pregnancy in Fontan Circulation: What is the Crucial Role of Clinicians in Non-Tertiary Center?**

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Background: Recent advances in Fontan surgery have contributed to more women with complex congenital heart disease (CHD) survive to childbearing age and become pregnant. Some patients have difficult access to tertiary center, so they may undergo antenatal care in non-tertiary center.
Case Illustration: A 27-year-old woman with 30 weeks of gestation came to outpatient clinic at a secondary hospital in Bontang for routine pregnancy consultation. Her hemodynamic was stable with oxygen saturation 93% and no signs of congestion. She had history of cyanotic at birth, diagnosed with tricuspid atresia and pulmonary atresia with intact ventricular septum. She had bidirectional cavopulmonary shunt surgery at 7 months old. Fontan completion was done at 5 years old. She had grown well since then. She was then referred to national cardiac referral hospital in Jakarta for further evaluation and given advice to limit strenuous activities, obtain adequate rest, avoid lying flat, maintain proper fluid intake, and stay in Jakarta until delivery. At 32 weeks of gestation, intrauterine growth restriction was detected. She then underwent elective caesarian section. She and her baby were discharged in good condition.Fontan procedure is a palliative surgery for patients with complex CHD who cannot support biventricular circulation. It's characterized by chronically elevated systemic venous pressures and decreased cardiac output. In childbearing age woman, pre-pregnancy assessment and counselling is essential. The patient and her husband must know that pregnancy can increased maternal and fetal risks. In non-tertiary center, clinicians should monitor the early signs on heart failure, arrhythmia, thromboembolic complications, and worsening cyanosis. Routine echocardiography must be perfomed at least each trimester. Patients should be advised to avoid emotional stress, fatigue, and alcohol which may precipitate arrhythmia. Proper fluid intake is also adviced to ensure good preload. Patients must be referred to tertiary center when they have reached third trimester and get close monitoring until delivery.
Conclusion: Clinicians in non-tertiary center should understand about Fontan physiology, so can provide good counselling and clinical assessment during antenatal care. Delivery must be performed only in tertiary center with multidisciplinary care.
Keywords: Congenital heart disease, Fontan circulation, pregnancy

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78. Blood Culture Negative Infective Endocarditis with Aortic Periannular Abscess

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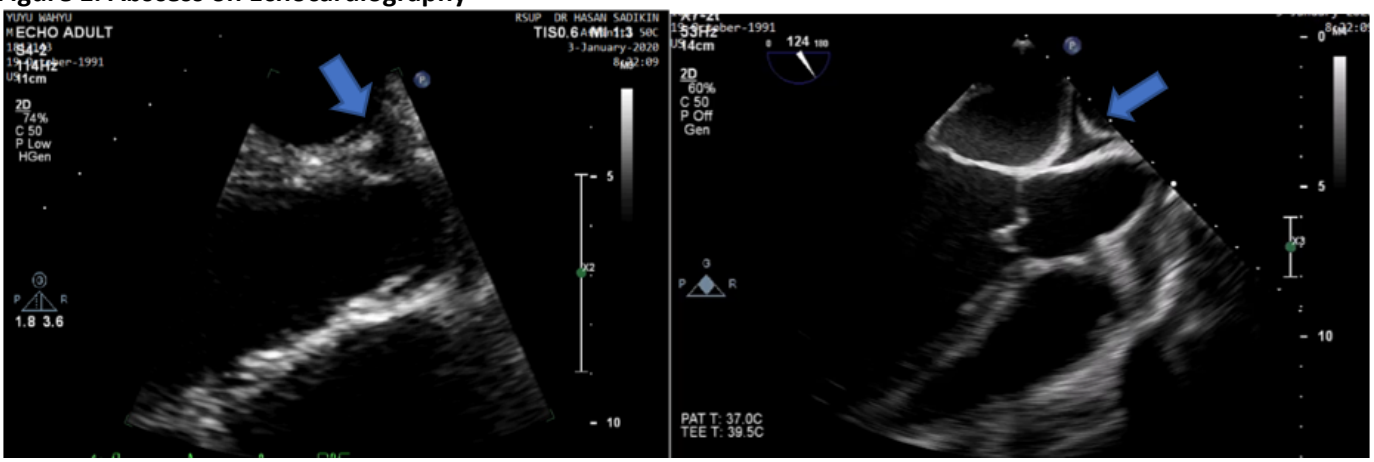
Background: Infective endocarditis (IE) remains a devastating disease despite continued advances in diagnosis, anti-microbial agents and surgical therapy**.** We present a case with blood-culture negative, mitral and aortic infective endocarditis, with periannular aortic abscess.
Case Illustration and Discussion A 29-year-old male was referred to our emergency department with shortness of breath and fever 7 days prior to admission. The patient was taken to RSUD Sumedang, diagnosed as severe aortic regurgitation, given heart failure medications and Ceftriaxone. Initially, the patient appeared stable, with anaemic conjunctiva, cardiomegaly with aortic regurgitation murmur, Janeway lesions and no signs of chronic severe AR. The laboratory examination showed anaemia, leucocytosis, and negative blood cultures. Echocardiography showed Dilated LA, LV; Normal LV systolic function; multiple vegetation at AML and PML, moderate to severe MR with prolapsed AML, rupture of RCC of the aortic valve with vegetation at RCC and NCC suggestive of periannular aortic abscess. Patient was given Ampicillin and Gentamycin, scheduled for urgent DVR and vegetation evacuation surgery in two weeks' time, but during hospitalization the patient fell into shock with acute renal failure. Vasopressor and inotropic drugs were given, haemodialysis was advised but the patient ultimately refused further therapy. In cases of blood-culture negative IE (BCNIE), other causes of noninfective vegetative endocarditis who can mimic IE should be taken into consideration. Antibiotic withdrawal, repeat blood cultures and use of serologic testing and PCR should be considered but current resources are scarce. Perivalvular extension of IE is associated with a poor prognosis and high likelihood of the need for surgery. Timing of surgery is important, with current guidelines suggesting urgent surgery for patients with shock or heart failure.
Conclusion BCNIE common in daily practice and should be evaluated further. IE with perivalvular complication yields high complication and mortality rate, and requires surgery.

Keywords: Infective endocarditis, periannular abscess, BCNIE

Figure 1. Abscess on Echocardiography



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79. **Weber Syndrome**

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Background: Stroke is a disease with high morbidity and mortality that time and again happens in society. In stroke, contralateral hemiparesis presents, but in a particular case, contralateral hemiparesis is accompanied with ipsilateral cranial nerve signs.
Case illustration and discussion: A 23-year-old woman experienced right-sided weakness, could not open her left eye, and had double vision and slurred speech. Her blood pressure was 130/100 mmHg on a physical examination. On neurological examination she had both ptosis and dilated pupil on her left eye, negative direct and consensual light reflex on her left eye, paralysis of the occulomotorius and trochlearis cranial nerve on the left, right facial weakness, and tongue deviation to the right on protrution. In addition, her muscle strength of the upper extremities was rated on a scale of 3/5 and on a scale of 2/5 on the lower extremities with positive Babinski and Chaddok reflexes on the right side. On a chest x-ray cardiomegaly without pulmonary edema was seen and an ischemic lesion in internal capsule was as well found on a head CT scan without contrast. The patient was given 80-mg aspilet once a day during her treatment and needed a further investigation, such as MRI or TCD examination to identify a defect in posterior circulation.
Conclusion: Weber syndrome, or superior alternating hemiparesis, can very likely be the cause of death so an immediate diagnosis with the help of an imaging investigation, and relevant treatment are essential.

Keywords: stroke, superior alternating hemiparesis, Weber syndrome

80. Chest pain in young woman: Angina or Dyspepsia?

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Background Acute coronary syndrome are one of the global and national leading cause of mortality. The usual suspect for the diagnosis are aged smoking male with predisposing conditions such as DM, hypertension, dyslipidemia, and family with known ACS history. Given that chest pain are not pathognomonic complaint for ACS, will it be a logical gesture to diagnose ACS in a relatively young woman admitted for chest pain?

Case Illustration and Discussion We report a 35 years old woman with NSTEMI. The diagnosis was confirmed by elevated cardiac biomarkers, regional wall motion abnormalities on TTE, and a totally occluded LAD on angiography. The patient was intially being admitted to a level 2 hospital with dyspepsia syndrome. Intermitent epigastic pain was the chief complaint of the initial admission.

Then, during admission, the patients develops a crushing chest pain. The complaint was accompanied by ST segments deviation on ECG. Patient was then refered to Hasan Sadikin Hospital with ACS as refering diagnosis.

The profile of ACS patients are most frequently male that are older than 45 years old. Young woman who had ACS are only accounted for 0.6% of all ACS patients. The previlege of young age are usually taken away by the presence of multiple risk factor. Yet, young age group still had a better prognosis compared the older age group, given the same treatment plan.

Conclusion Female patients, that are younger than 45 years old, only accounted for 0.6% of all ACS patients. Despite the odds, ACS are still a possible working diagnosis in a young female patient, even with relatively minimal predisposing conditions. Having a better prognosis, these patients should be provided with prompt diagnosis and immediate treatment.

Keyword: Acute Coronary Syndrome, young woman.

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81. Improvement Ejection Fraction After 11 Days Treatment in Pediatric Dilated Cardiomyopathy : Case Report

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2. Lecturer, Medical School of Al-Azhar University,Mataram, NTB, Indonesia
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4. Lecturer, Medical School of Mataram University, Mataram, NTB, Indonesia.

Introduction: Dilated cardiomyopathy (DCM) in children is a rare disease with 0.57 case per 100,000 children in America. DCM in children usually exhibit symptoms like cough, shortness of breath, and poor weight gain, because of the unclear symptoms DCM is often misdiagnosed with a viral infection of upper respiratory tract and recurrent pneumonia[1]

Case Presentation: A 7 -year-old child came to hospital with common cold and persisten cough in the last 11 days, sometimes accompanied with shortness of breath. Physical examination showed blood pressure 100/60 mmHg, heart rate 100 beats/minute, respiration rate 36 times/minute The laboratory result showed normal C-reactive Protein (CRP) 4.7mg/l, mild increase in Anti-Streptolysin Titer O (ASTO) 200 iu/ml and negative Rheumatoid Factor (RF). Chest X-Ray showed mild cardiomegaly, Echocardiograph showed reduction in Ejection Fraction (EF by Teich 25%), and after 11 days treatment EF by teich 60%. The patient was given aspilets 250 mg three times daily, furosemide 10 mg once daily, Spironolactone 12,5 mg once daily, captopril 6,25 mg twice daily, prednisone 5 mg twice daily. Based on ESC, gold standart for inflamatory DCM diagnose is using miocard biopsy and Cardiac Magnetic Resonance Imaging (CMRI) or CRP is not too specific for diagnostic inflamatory DCM[2]. As decreasing thickness and remodelling of left ventrikel (LV) walls happened in DCM, Captopril has been given to this patient to prevent the remodelling, because captopril can increase tissue bradykinin level that has anti growth effect and reduce vasomotor tone[3].

Conclusion: Pediatric DCM is often caused by inflamation, so biopsy must be considered for diagnostic.and giving ACE inhibitor for antiremodelling agent in early stage can make better prognosis for patient.

Keyword: Dilated Cardiomyopathy (DCM), Pediatric, Echocardiography, ACE Inhibitor.

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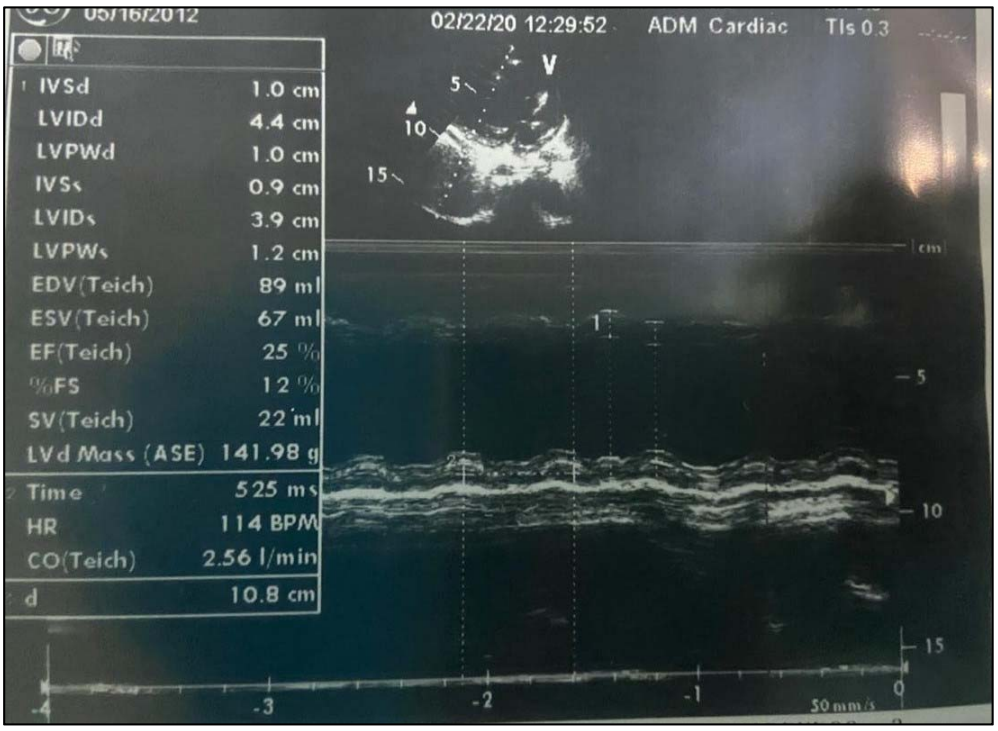

Fig 1. Echo in the first day showing EF 25%.

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82. **Giant Unruptured Aneurysm Right Sinus Of Valsava, Diagnostic And Management : A Rare Case Report**

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Background Sinus of valsava aneurysms (SVAs) is a rare cardiac anomaly. They result from a lack of continuity between the aortic media and the annulus fibrosus of the aortic valve. The typical evolution of SVAs is toward rupturing, thus carrying a very high rate of mortality. Unruptured SVAs are usually asymptomatic, and the diagnosis of unruptured SVAs is usually accidental.
Case Illustration A 18-years old male was admitted with exertional dyspnea, accompanied with lower extremities edema of-one-month duration. He had fever 2 weeks prior the symptoms started. History of past cardiac illness, smoking, and intravenous drug abuse was denied. Transesophageal endoscopy (TEE) revealed an aneurysmal bulge of the right sinus of valsava protruding to Left Ventricular Outflow Tract (LVOT) without obvious rupture, moderate mitral regurgitation with jet eccentric, prolapse of anterior mitral leaflet, enlarged left ventricle with ejection fraction of 53%. An urgent repair operation of SVA was done and showed vegetations and abscess. Unruptured aneurysms are usually asymptomatic and are often found incidentally. Conversely, our patient was symptomatic and had been referred for clinical sign of heart failure. Upon further investigation with echocardiography, the patient was found to have giant unrupture SVA with LVOT obstruction. Noninvasive imaging modalities such as TTE or TEE may prove useful in assessing SVA characteristics.
Conclusion We report a rare case of giant unruptured aneurysm right sinus of Valsalva, causing severe LVOTO, associated with possible endocarditis, undergoing successful surgical correction.
Keywords
Right sinus of valsava, Valsava aneurysm, Cardiac surgery

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83. **Inadvertent Misplacement Lead of Temporary Pacemaker into The Left Ventricle in Atrial Septal Defect Patient : How Do We Know?**

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Background A pacemaker lead misplacement in the LV is a rare pacemaker complication. The incidence is probably unknown. In some cases, the misplacement of pacemaker leads are caused by cardiac anomalies. A 12-lead ECG is important to confirm proper placement since it usually can detect unusual patterns of conduction that is produced by pacemaker stimuli.
Case Illustration Female, 60 years old came to ER with recurrence seizure for 1,5 hours. Clinical examination showed BP 122/70 and HR 30x/m. ECG showed sinus arrest with junctional escape rhythm 30x/m. We planned to insert TPM and did angiography. The angiography showed normal coroner. We did ECG to evaluate TPM function and the result was RBBB. TTE showed large secundum ASD. We suspected that our lead entered the LV via secundum ASD. Fortunately, no complications happened. We planned to replace the lead and change it into PPM. The PPM lead was implanted in RVOT successfully. We redid the ECG and the result was LBBB with pacing rhythm 71x/m. The patient went home next day and stable to this day. ECG are expected to present LBBB pattern if it is correctly inserted in the RV apex. However, ECG that shows RBBB pattern should raise suspicion about the misplacement lead. LV stimulation has been reported due to leads misplacement through ASD and PDA. TTE is a reliable choice to confirm the lead exact position, trace its deployment route, and search for the presence of cardiac anomalies.
Conclusion Pacemaker lead misplacement in the LV is easily presumed through ECG with RBBB presentation. The cause of lead misplacement can be cardiac anomalies. A routine performance of 12-lead ECG immediately after pacemaker implantation is a must. In case of an RBBB pattern, TTE should be performed for accurate localization of the ventricular lead.
Keywords Electrocardiography; Temporary Pacemaker; Secundum ASD.

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84. **Persistent Prolongation of QTc AfterAmiodarone Use**

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Background: Acquired long QTc is often associated with treatment with a QT-prolonging medication such as amiodarone.
Case Illustration :A 58 years old man was admitted to emergency unit with dyspnea. Previously patients hadfever for 10 days before hospitalized. Patient have uncontrolled hypertension. Vital signs GCS E4VxM6, BP 180/90mmHg, pulse 110/min, RR 30/min, temperature 39^{o} C, SpO_2 98% with ventilator. His labs revealed Sodium 122, Potassium 4,1, Calsium 7. Procalcitonin was high (5,59). His ECG revealed paroxysmal atrial fibrillation. Patient was diagnosed with paroxysmal AF RVR, HT stage II, HHD with severe sepsis. He was treated with broad spectrum antibiotic, acetaminophen, furosemide, valsartan, enoxaparin, amiodarone and fluconazole. After administration of amiodarone 150 mg for six days intravenously, with total dose 900 mg, ECG revealed sinus rhytm. The QTc interval was 590msandhypocalsemia (Ca^{++} : 7) was noted. Hypocalsemia was treated by Calos 500 mg until patient discharge. Despite amiodarone cessation and correction of electrolyte abnormality, excessive QTc prolongation persisted for 27 days. Amiodarone is a class III antiarrhythmic drug and an effective drug in almost all types of arrhythmias, especially new-onset atrial fibrillation butamiodarone potential to be proarithmic, which causes QTc prolongation. Other factors causing long QTc were also evaluated. In this patients hypocalsemia and hypertension are potential factors causing long QTc. Calos has been given for electrolyte correction, after normal Ca levels, long QTcstill found thus long QTc caused by electrolyte disturbances can be excluded. After cessation of intravenousamiodarone, ECG with long QTc was still found for 27 days. The onset of QTc normalization after amiodaroneuse varies, previous reports ranged from several days until months.
Conclusion: Drug-induced QTc prolongation normalizes after drug discontinuation, but, in the case of amiodarone, this time the interval is not well defined.

Key words: QTc prolongation, amiodarone

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85. **Ventricular Tachycardia During Pregnancy: A Case Report**

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Background: Ventricular tachycardia (VT) is quite uncommon to occur during pregnancies. However, one study shows an increase in cases of ventricular tachycardia during pregnancies and hospitalization in pregnancy-related to arrhythmia. To manage arrhythmia during pregnancy is a challenging task. Giving the right therapy can be lifesaving for both the mother and the fetus.
Case Illustration: A 29-year-old female G3P2A0 with 24 weeks of gestation presented with sudden onset of palpitation and shortness of breath. She had a history of SLE since she was a child with no history of cardiac disease. Initial ECG showed tachyarrhythmia with wide QRS complex. Couple doses of amiodarone IV are given without any changes in ECG rhythm. Then she was given continuous infusion of 500mg lidocaine and 600mg amiodarone for the next 24 hours. Cardioversion was planned if her vital sign continue to decline. The patient passed-away within 12 hours of admission. VT during pregnancy is more likely to occur in women with structural heart disease, such as cardiomyopathy, prior to pregnancy. Physiological changes during pregnancy can induce VT, but its incidence is rare. Chronic SLE without an adequate treatment can lead to complications in cardiovascular system, that making VT more likely to occur. Managing VT during pregnancy is quite a challenge. Medication such as lidocaine and procainamide are considered a safe choice on treating VT in stable condition. Cardioversion is the first choice to manage VT during pregnancy in patient with unstable condition.
Conclusion: VT may occur during pregnancy especially in women with structural heart disease prior to pregnancy. Giving the right therapy can save both the mother and the fetus. Cardioversion is still the first-choice treatment in VT with unstable condition even during pregnancy. Antiarrhythmic medications are given in patient with stable condition in VT during pregnancy.

Keywords: Ventricular tachycardia, pregnancy, SLE

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86. **A Case of Restrictive Cardiomyopathy with Highly Suggestive of Cardiac Amyloidosis in Type C Hospital**

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Background: Restrictive cardiomyopathy (RCM) is the least common of cardiomyopathies. Because of its heterogeneous nature of the origins, manifestations and the challenges in diagnosing these diseases, it is difficult to estimate the incidence and prevalence. We'd like to present a case of restrictive cardiomyopathy in type C hospital that matches the feature of Cardiac Amyloidosis.

Case Illustration and Discussion:A 62-year-old male patient presents with severe swelling on both legs to the scrotum. Patient has been diagnosed with heart failure 3 years ago in another hospital, but complaints haven't improved. Shortness of breath has weighed in the last few weeks. No complaint of chest pain. No history of hypertension and other risk factors for coronary artery disease. From physical examination, we found macroglossia, ictus cordis slightly displaced laterally, absent parasternal heave, and no abnormal heart sounds. Chest radiograph shows mild cardiomegaly with right pleural effusion. ECG shows multifocal atrial rhythm without abnormal voltage (low or high voltage), and no sign of ischaemia or infarction. Based on these clinical data, we suspect of right ventricular dysfunction that might be caused by severe left ventricular (LV) diastolic dysfunction. Echocardiography shows normal biventricular dimensions with concentric LV wall thickening, valvular thickening, biatrial enlargement, and minimal pericardial effusion. No significant abnormal laboratory value findings. These features are highly suggestive of cardiac amyloidosis, consistent with various case reports. Tests and enforcement of this diagnosis are carried out in a type C hospital with limitation of resources. Patient's planned for a cardiac MRI examination, but still constrained by costs and the patient was not covered by health insurance.

Conclusions: Even with limited resources, a thorough physical examination would allow doctors to diagnose rare cases. This case is highly suggestive of cardiac amyloidosis based on Echocardiography findings and supported by macroglossia as a manifestation of systemic amyloidosis.

Keyword: Restrictive cardiomyopathy, amyloidosis, echocardiography, diastolic dysfunction, ventricular dysfunction

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87. **A Masking of COVID-19 Beneath the UAP with ST Depression of 64 Years-Old Man: A Case Report**

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Background: Coronavirus Disease 2019 (COVID-19) is an emerging pandemic with a thousand manifestations such as Unstable Angina Pectoris (UAP) with ST depression. Both diseases can intertwine each other, masking the diagnosis, and lead to the widespread of the infection.

Case Illustration:A 64 years old pedicab driver presented to the ER with typical chest pain of 90 minutes onset and uncontrolled hypertension. Examination revealed a blood pressure of 150/80 mmHg, otherwise normal vital signs. The electrocardiogram showed a lateral ST-segment depression. A chest x-ray showed a normal finding. He then received initial Dual Anti-Platelet Therapy (DAPT) and supportive therapy. Laboratorium examination including a rapid test of COVID-19 was normal. The diagnosis of UAP was made. In intensive care, he received Fondaparinux, DAPT, ramipril, and oral nitrate. On the third day, suddenly the patient developed 39 degrees Celcius of fever, shortness of breath, and oxygen desaturation (81 percent). A chest x-ray showed bilateral pneumonia and still negative results of COVID-19's 2nd rapid test. Blood Gas Analysis showed respiratory failure type 1. In the isolation room, he received Jackson Rees, Fondaparinux, Azithromycin, Vitamin C, Oseltamivir, and hydroxychloroquine. RT-PCR examination the next day showed confirmed case of COVID-19. On the fifth day, a complete resolution of ST-depression was found. The patient exhibit an excellent response from the therapy, showed a negative test result of the second RT-PCR examination, and discharged in 16th days of admission.

Discussion:COVID-19 has vast manifestation, including UAP with ST-Depression. The virus possibly used an ACE 2 receptor of the endothelium as an entry point, leading to transient injury of the heart, manifested with typical chest pain and ST-Depression.

Conclusion: The diagnosis of COVID-19 must be taking into consideration when there is a patient with abrupt onset of cardiac symptoms and higher exposure risk.

Keyword:COVID-19, UAP, ST-Depression.

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88. **Left Ventricular Apical Thrombus In Heart Failure with Low Ejection Fraction. How To Prevent Thromboembolic Events? A Case Report.**

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Introduction: Thromboembolic events are complications that are feared related to left ventricular apical thrombus formation. Left ventricular apical thrombus formation is based on the presence of *Virchow's triad,* include endothelial injury, hypercoagulability, and stasis of blood flow. The phenomenon increased in patients with reduce ejection fraction mainly due to anterior myocardial infarction, chronic heart failure (CHF), and dilated cardiomyopathy (DCM). Identification of thrombus by echocardiography, management strategies use anticoagulant, and the follow up to the patient must be applied to prevent poor outcomes.
Case Presentation: A 56 year old man was admitted to emergency room because of dypsnea since two weeks and getting worse, swelling lower extremities. No complaint of chest pain. The patient had a history of uncontrolled hypertension. The physical examination showed the blood pressure 140/90 mmHg, heart rate 87/ minute, respiratory rate 36/ minute, no elevated of JVP, pulmonary crackles was in both basal lungs. Edema was on both extremities. The ECG showed sinus rhythm with old anterior myocardial infarction. Echocardiography examination revealed the marked enlargement of all four cardiac chamber, EF 29%, global hypokinetic with regional wall motion abnormalities. An immobile 4.09 cm x 0.99 echo dense mass was found in the left ventricle apical suggestive of a large left ventricular apical thrombus. The Patient was treated with 5000 iu/ml intravenous bolus heparin, continued with titration of 450 iu/ hour, intravenous furosemide 2x40 mg, ramipril 1x5 mg, spironolactone 1x25 mg, and bisoprolol 1x1.25 mg. The patient was discharged after the condition improved, and continued with outpatient care by giving warfarin 1x3 mg. Furthermore, monitoring INR and echocardiography examination will be performed to evaluate side effects of anticoagulant and resolution of the thrombus.
Conclusion
Maintenance of anticoagulant and medication for heart failure with low ejection fraction by monitoring their effectiveness and safety are needed for left Ventricular apical thrombus in heart failure with low ejection fraction to prevent thromboembolic complications.

Keywords*: Left ventricular apical thrombus, Low EF, Thromboembolic events.*

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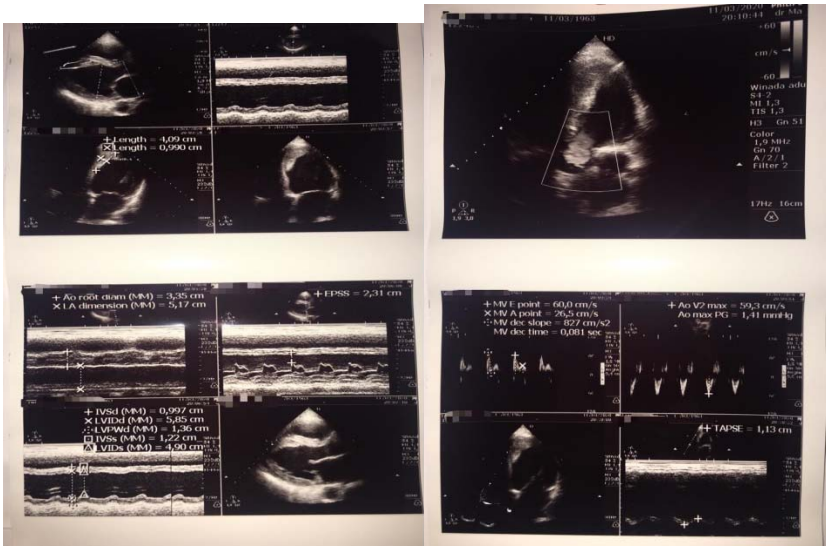

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89. **High Burden Thrombus Management Strategy in STEMI (High burden thrombus in STEMI, what selected strategy should be preferred ?)**

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Background: Intracoronary thrombus derived from ruptured atherosclerotic plaque are one of the causes of coronary vascular occlusion. Intracoronary thrombus more frequently found in STEMI rather than in NSTEMI. Thrombus aspiration can increase mortality rates and its efficacy are still being debatable.
Case Illustration: A 61-years-old male patient presented with ST segment elevation myocardial infarction at the onset of 11 hours. The electrocardiography showed STEMI inferior. Angiography showed total occlusion in proximal RCA and multiple non-significant occlusions in LAD. During PCI, RCA were still occluded by large thrombus, although wire penetration has been successfully accomplished. Three thrombus aspiration were done at proximal and distal RCA. Drug eluting stent was then implanted in at proximal-mid RCA. Contrast showed TIMI flow 3, no stenosis residual, or thrombus after the procedure. ECG showed sinus rhythm after primary PCI and thrombus aspiration. During hospitalization patient were given antiplatelet and anticoagulant. Intracoronary thrombus is a poor prognostic indicator, It impaired both epicardial blood flow and myocardial perfusion. The presence of thrombus can also increase the risk of long-term cardiovascular events, in-stent thrombosis, no reflow phenomenon, and distal embolization. Primary PCI with thrombus aspirations and intracoronary targeted thrombolysis are effective in manage high burden intracoronary thrombus in STEMI patients. Primary PCI with thrombus aspirations itself can improve myocardial perfusion, decrease MACE events and accelerate resolutions of ECG rather than without thrombus aspirations. GP IIb/IIIa inhibitors effectively can be given in high burden thrombus and in any other complications of thrombosis.
Conclusion: Primary PCI management has its own challenge in STEMI patients with large thrombus. In STEMI patients with high burden thrombus, thrombus aspirations efficacy still being debatable, but studies prove that it can improve myocardial perfusion.
Keywords: STEMI, high burden thrombus, thrombus aspiration.

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90. **Psoriasis and ST Elevation Myocardial Infarction (STEMI): A Forgotten Dark Horse.**

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Background: STEMI is an indicator of total occlusion of coronary arteries, requiring revascularization to restore blood flow and myocardial perfusion as soon as possible. Recently, non-traditional risk factors such as autoimmune disease, pregnancy, menopause, and depression were introduced. One of the autoimmune diseases that must be taken into account is psoriasis.

Case illustration: A 64 years old man presented with typical chest pain for 3 hours before the ED visit. The patient had a history of psoriasis since 14 years ago. In 2010, he was given Methotrexate 1x2.5 mg, but he only took it for 1 month. He also had hypertension since 4 years ago and controlled with Telmisartan 1x80 mg. Hemodynamic and physical examination within normal limits. ECG showed sinus rhythm with anteroseptal ST elevation. He underwent primary percutaneous coronary intervention. Coronary angiography revealed CAD 3VD with total occlusion at proximal LAD. Consultation to a dermatologist was done and he was diagnosed with severe psoriasis with *Psoriasis Area Severity Index* score 31. Psoriasis is associated with a greater prevalence of cardiovascular risk factors, including hypertension, diabetes mellitus, dyslipidemia, and obesity. Patients with psoriasis have been found to have increased arterial stiffness and there is a positive correlation between arterial stiffness and psoriasis disease duration. Patients with psoriasis also have increased prevalence and severity of coronary artery calcification and atherosclerosis. Molecular mechanisms responsible for the association between psoriasis and cardiovascular comorbidities include shared genetic factors, common inflammatory pathways, secretion of adipokines, insulin resistance, lipoprotein composition and function, angiogenesis, oxidative stress, microparticles, and hypercoagulability.

Conclusion: Psoriasis is an autoimmune disease not only affecting the skin and joints, but also cardiovascular and metabolic systems. Psoriasis patients have a higher prevalence of cardiovascular risk factors and are at increased risk of developing myocardial infarction. Physicians should be more aware of cardiovascular risk when assessing patients with psoriasis.

Keywords: psoriasis, STEMI, myocardial infarction.

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91. **Percutaneous Coronary Intervention Bleeding Complication in Patient with Acute Myocardial Infarction as an Intial Manivestation of Policytemia Vera: A Case Report**

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Background: Polycytehemia vera (PV) may present with signs and symptoms related mainly to thrombosis and/or hemorrhage. We report a case of PV who present with initial manifestation with acute thrombotic event as myocardial infarction (MI) and then had an acute major bleeding after percutaneous coronary intervention (PCI).
Case Illustration: A 58 years old women presented to emergency department diagnosed with ST segment-elevation MI and PV. She had a minimal subcutaneous hematoma at the site of anticoagulant injection before intervention. The angiography showed severe stenosis in proximal left anterior descendent and successfully deployed 1 stent. After PCI, she had a gingival bleeding and swelling in the left flank region suspected a retroperitoneal acute major bleeding. She was threatened with standard medical bleeding control management. Then planned for surgical bleeding source control. But unfortunately, the patient couldn't survive during preparation. Several previous reports showed that PV as a myeloproliferative disease (MPD) could present with an initial manifestation as MI because of hypercoagulability. In this case, we found acute major bleeding following thrombotic event. The hemorrhagic diathesis in PV is rare. An acquired von Willebrand syndrome might be responsible for the hemorrhagic diathesis of MPD with very high platelet counts. An altered degradation and function of von Willebrand factor (VWF). Hemorrhagic manifestations are paradoxically more common than thrombosis because of the frequent occurrence of qualitative abnormalities of VWF and this could be life threatening.
Conclusion:MI could be the initial presentation of PV. The interventionist must be aware that this patient also prone to had a fatal acute major bleeding complication during and or after PCI.
Keywords: polycythemia vera, myocardial infarction, major bleeding

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92. **Acute Coronary Syndrome in Cancer Patients : A Case Report of Chemotherapy induced Cardiotoxicity**

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Background : Improved therapeutics have reduced cancer mortality and given rise to a growing population of cancer survivors. Cardiovascular disease is the leading cause of non-cancer death in patients with cancer. This is in part due to shared risk factors between cancer and cardiovascular disease, and partly due to pro-inflammatory and pro-thrombotic milieu of cancer, and the cardiotoxicity of certain cancer therapies

Case Illustration: A 62 year old man was admitted to Emergency Room due to typical angina chest pain not relieved by rest. Past medical history was rectosigmoidal cancer since 2 years ago which has spread to lung and bones. Patient underwent for surgery followed by chemotherapy and radiotherapy. Patient had thirty five intravenous chemotherapy session with Cisplatin, 5-fluorouracil (5-FU), Bevacizumab regimen and oral chemotherapy with Capecitabine. We found cardiomegaly in physical examination with the ECG shows sinus rhytm with ST segment depression in V2-V3 and right bundle branch block. The patient ECG 2 years ago before chemotherapy was normal sinus rhytm without ischemic morphology. We performed hs-Troponin I examination shows results <1.5 ng/L. Patient was diagnosed with Unstable Angina Pectoris and then treated with heparinization in CVCU.

Discussion: Myocardial ischaemia and infarction are side effects of several cancer therapies. Fluoropyrimidines such as 5-FU and its oral form capecitabine are inducing myocardial ischaemia due to coronary vasospasm and endothelial injury. Cisplatin may induce arterial thrombosis with subsequent myocardial ischaemia due to procoagulant and direct endothelial toxic effects. VEGF signalling pathway inhibitors like bevacizumab have an increased risk for coronary thrombosis due to direct endothelial injury.

Conclusion

Acute coronary syndrome can result from chemotherapy side effects. There is a growing concern that this may lead to premature morbidity and death among cancer survivors. This may be the result of cardiotoxicity, which involves direct effects of the cancer treatment on coronary vessels.

Keyword: NSTE-ACS, Cancer, Chemotherapy, Cardiotoxicity

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95. **Typical Chest Pain with Cardiac Tamponade**

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Background: Acute aortic dissection has a fatal result in the event of treatment delay or misdiagnosis. Male sex, age>65 years, hypertension, smoking, aneurysm, congenital disorders, and inflammatory disease were risk factors for aortic dissection. We presented a case of Aortic dissection with cardiac tamponade and typical chest pain.

Case Illustration and discussion 66 years old men came with chest pain in substernal more than 30 minutes, a doomed feeling, diaphoresis, and shortness of breath. He had hypertension and smokers. Electrocardiography showed sinus tachycardia, ischemic apicolateral-highlateral. Echocardiography showed concentric hypertrophy, normal LV systolic function, normokinetic, dilated ascending aorta (annulus 26 mm, sinus valsalva 38 mm, STJ 36 mm, ascending aorta 43mm). Severe pericardial effusion, RA collapse (-), RV collapse (+), MIV >30%, TIV >60%. patient diagnosed with aortic dissection, and acute kidney injury stage III.

Aortic dissection patient may be presenting with myocardial ischemia or infarction. It may result from aortic false lumen expansion, with subsequent compression or obliteration of coronary ostia or prorogation of the dissection process into the coronary tree. Pericardial effusion in acute aortic dissection occur via 2 mechanisms. Most commonly, transudation of fluid across the thin wall of an adjacent false lumen into the pericardial space leads to a hemodynamically insignificant pericardial effusion. Less often the dissection directly into the pericardium, leading to tamponade and hemodynamic compromise.

Conclusion: Clinicians must always aware of aortic dissection even though the patient presents with typical chest pain. History taking, physical examination, and diagnostic imaging must be carefully done especially in patients with chest pain and severe pericardial effusion. This case report didn't have CT scan or MRI result. So, we don't have a true diagnosis. However, from clinical impression patient have typical angina that makes more likely treat as acute coronary syndrome. But further examination diagnosed as acute aortic dissection.

Keywords: Aortic dissection, coronary artery disease, chest pain.

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96. **Bradycardia with Mushrooms Intoxication**

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Background: Cardiac arrhythmias can be caused by several mechanism. Impulse disorder that caused by parasympathetic stimulation is one of them. Muscarine toxin of mushrooms can cause this mechanism. We present a case with bradycardia caused by mushrooms intoxication.
Case Illustration and Discussion: A 76 years old man was referred to our emergency department with watery diarrhea accompanied by nausea and vomiting, excessive sweating, increased saliva production, excessive tears production, and cramp in limbs with mushroom consumption history. The patient was taken from RSUD Cikalong with mushroom intoxication. The ECG showed junctional bradycardia with premature atrial complex. Initially, the patient appeared shock and dehydrate status, with cardiomegaly. The laboratory examination showed leukocytosis, elevated urea and creatinine levels. Patient was given fluid rehydration and sulfate atropine. Reversible causes must be treated with fluid rehydration in case of bradycardia caused by mushroom intoxication. Sulfate atropine can be given to the patient if fluid rehydration not responded. The ECG showed junctional escape rhythm after this treatment. ECG disorder can occur for several days in case of mushroom intoxication. All sign and symptoms of mushrooms intoxication occur for several days in some cases until disappeared with sulfate atropine's therapy. The temporary pacing can used in case of severe symptomatic bradycardia attributable to a reversible causes. Unfortunately, the patient decided to go home before we were doing further examination for evaluate the patient.
Conclusion: Mushrooms intoxication common in daily practice and should treated soon. The underlying disease must treat in bradycardia caused by mushroom intoxication. Temporary pacing can used in severe condition.

Keywords: bradycardia, mushrooms intoxication, sulfate atropine

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97. **Post Cardiac Injury Syndrome (Pcis) After Successful Elective Percutaneous Coronary Intervention (Pci)**

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Introduction : PCIS is referred to as an autoimmune reaction resulting from a variety of cardiac insults. The disease is characterized by inflammation of the pericardium, pleura, and pulmonary parenchyma following a cardiac injury.

Case Description : Male, 46 years old, a referred from UNS Hospital with diagnoses Advanced Heart Failure. Patients brought the results of the Coronary CT with the conclusion of CAD-RADS score 5 and total occlusion in mid LAD. Echocardiographic revealed a RWMA and EF 10-11%. Patients were treated for PCI and 1 DES was performed in proximal-mid LAD, TIMI Flow III. Three hours after the procedure, pleuritic chest pain, dyspnea and a fever developed. On the physical examination, BP was 80/40 mmHg, RR was 30 bpm, and HR was 110 bpm. A harsh pericardial friction rub could be heard. The Hs Troponin was 1016 ng/L. The leukocyte count (1.5×10^9/L), and hS-CRP concentration (9.95 mg/dL) were all elevated. A moderate pericardial effusion was surrounding the heart with mitral inflow 20% and tricuspid inflow 21 %. The chest X-ray showed a left pleural effusion as a result of an acute pleuritic. We concluded that the patient had an PCIS. He was given 20 mg of methylprednisolone/12 hours, ibuprofen 600 mg/8 hours and colchicine 0.5 mg/24 hours. After receiving full anti-ischemic and anti-inflammatory drug treatment, the patient was symptom-free during hospitalization. The pericardial and plueral effusion was gradually resolved in 5 days.

Conclusion: Here we reported a rare case of PCIS with atypical early onset. PCIS should be considered in patients that develop a fever, dyspnea, pleuritic pain, pleural and pericardial effusion changes after a PCI. We should pay more attention to the severe inflammatory reaction and coronary microvascular dysfunction resulting in an CAD patient with risk factors of endothelial dysfunction, although this condition poses a real challenge, especially in the PCIS-predisposed individuals.

Keywords: ***PCIS, elective PCI***

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98. DIAGNOSIS AND MANAGEMENT OF UPPER EXTREMITY DEEP-VEIN THROMBOSIS IN PATIENT WITH ADENOCARCINOMA LUNG MUTATION EXON 19 EGFR (+)

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Introduction : Upper Extremity Deep-Vein Thrombosis (UEDVT) accounts for 10% of cases of DVT. Primary UEDVT is less common than secondary forms. Patient-related risk factors include the presence of cancer, particularly ovarian or lung adenocarcinoma.

Case Description : Female, 46 years old, consulted by pulmonologist with a diagnosis adenocarcinoma of EGFR (+) exon 19 stage IVB mutations and thrombus in Superior Vena Cava (SVC) by MSCT . The patient complained of a swollen right hand since about 1 week after being admitted to the hospital. Physical examination revealed grade 2+ unilateral edema in the right hand, localized pain, VAS II, SaO2 98-99% in all four extremities. ECG shows SR with heart rate 98 times / min, normal axis with low voltage. Patients were diagnosed with TVDEA suspicion, Contans score 2 and Khorana 1. After the DUS, the patient was treated in the acute phase of TVDEA using UFH. UFH administration only lasted for 48 hours because of bleeding, decreased Hb and prolongation of APTT. 1 month later, the patient came to the hospital with clinical improvement namely loss of pain and edema complaints. This patients obtained Contans scores 2 (likely TVDEA) and Khorana scores 1, so that management uses the possibility TVDEA algorithm with DUS as the main examination for diagnostics. Risk factors for the occurrence and recurrence of TEV in these patients are pulmonary adenocarcinoma, afitinib oral chemotherapy, Type II DM and history of hospitalization. TVDEA management for these patients was given UFH in the initial phase because patients with a high risk of bleeding (VTE BLEED score 5) and antidotes were available at the hospital. Long-term therapy in patients is rivaroxaban 20 mg / 24 hours for at least 6 months.

Conclusion: The diagnosis is made by combining clinical risk estimates with Constans scores, Khorana scores and imaging modalities. TVDEA management in patients with cancer takes into account the high risk of bleeding.

Keyworsd : UEDVT, Lung Adenocarcinoma

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99. **Challenge in Left Main Trifurcation :**
Angioplasty with Intravascular Ultrasound Guidance is Very Helpful

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Background : Left main (LM) stenosis is associated with poor prognosis and high mortality rate. Percutaneous coronary intervention (PCI) for left main with bifurcation or trifurcation is alternative way to revascularization instead of coronary artery bypass graft nowadays. This procedure remains one of the most technically challenging for interventional cardiologist, due to complexity feature of LM disease. Intravascular ultrasound allow help interventionist to overcome the limitations of coronary angiography in this procedure.

Case Illustration & Discussion : A 55 year-old man with chronic coronary syndrome was referred to our hospital for coronary angiography. A trifurcation stenosis was found at LM. Stenosis appeared to be 30% in LM. His proximal left anterior descending (LAD) was 70% stenosis, proximal left circumflex (LCx) was 90% stenosis, and intermediate branch was 30% stenosis. Right coronary artery was non-significant stenosis. IVUS was conducted before preparation of the lesion and stenting. IVUS showed significant 50% stenosis in LM, with diffuse calcification lesions in LM-LAD-LCx. Rotational atherectomy (RA) was done in LM, LAD and LCx before dilation with cutting balloon, and non-compliance balloon. The stent DES was inserted towards the proximal LCx, then LM-proximal LAD (double kissing crush technique). Evaluation of post stenting with angiography and IVUS obtained good and maximum results. IVUS aims to enable successful angioplasty of LM trifurcation through assessing lesion severity and distribution as well as their characteristics; reference lumen diameter and stent length; and optimization stent deployment. Therefore, reducing post-stenting complication and improve procedural results and clinical outcomes.

Conclusion : IVUS is an useful tool in PCI at LM trifurcation. Its role was important at before, during and after stenting which can provide maximum results of PCI. Compare angiographic guidance alone, IVUS improves the outcome of PCI in patients with LM trifurcation.

Keywords: intravascular ultrasound, left main, trifurcation, bifurcation, percutaneous coronary intervention

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100. **Autoimmune Hemolytic Anemia Causing Group 5 Pulmonary Hypertension: A Rare Case**

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Background: Pulmonary hypertension (PH) has been associated with hemolytic anemia. The prevalence of PH in hemolytic anemia is estimated to be as high as 10-40%, and reports are presenting poor prognosis in this subset of patients. PH associated with autoimmune hemolytic anemia (AIHA) is still rarely discussed, and there is paucity of literature regarding its precise pathophysiology and treatment. Here, we describe a case of PH associated with AIHA.

Case Illustration and Discussion: A 34-year old woman came to our center with chief complaint of dyspnea on exertion. She was previously diagnosed with AIHA with positive direct Coomb's test. Physical examination, chest X-ray and echocardiography were consistent with pulmonary hypertension. The diagnosis of group 5 pulmonary hypertension was made. Although rare, the association between chronic hemolytic anemia and PH is evident, through several mechanisms involving nitric oxide inactivation, direct injury of the endothelium, oxidative damage, thromboembolic formation, and left ventricular dysfunction. The management of PH in hemolytic disorders comprises treatment of underlying hemolytic disorder and PH-specific therapies. For PH specific therapy, to date, there are no therapies that have been fully studied for these specific patient population. Our patient was given bisoprolol, furosemide, amlodipine, spironolactone, candesartan, beraprost sodium and sildenafil. On follow up two months later, her functional status was improved.

Conclusion: PH associated with AIHA develop via multifactorial and complex mechanisms. PH in AIHA could be detected with meticulous history taking, physical examination, chest X-ray and echocardiography, and treatment with vasodilating agents were shown to improve the PH.

Keywords: pulmonary hypertension, autoimmune hemolytic anemia, pulmonary arterial hypertension

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101. Simultaneous Bilateral Infective Endocarditis on Intravenous Drug Abusers: A Case Report

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Background: Infective Endocarditis remains a significant cause of morbidity and mortality, and although the overall incidence has remained stable, the incidence has been increasing among intravenous drug abusers (IVDAs). Simultaneous right and left sided infective endocarditis is a rare entity. Only a minority of the right sided infective endocarditis patients developed into bilateral infective endocarditis.
Case Ilustration and discussion: A 23 years old man with history of intravenous drug abuse came with shortness of breath and prolonged fever. The patient was diagnosed as sepsis with definite infective endocarditis after confirmed by transthoracic echocardiography and positive blood cultures. A diagnosis of definite infective endocarditis was made as the modified duke criteria meet 2 major (vegetation on both mitral and tricuspid valve, positive blood cultures), and 3 minor (fever > 38^{o}C, IV drug user, vascular phenomenon) criteria. Conservative strategy was first decided to the patient but the patient got quickly worse after a couples of days. The patient was died on 4th day of admission because of sepsis and respiratory failure before referred to the surgeon for emergency procedure. Despite the controversial of operative management for infective endocarditis in drug users, experience with right- and left-sided endocarditis would suggest that more aggressive than usual surgical therapy should be employed to prevent cardiac abscess formation and death.
Conclusion: Bilateral infective endocarditis has been an uncommonly reported lesion. Patients with artificial cardiac valve replacement, those with central monitoring catheters for any length of time, or IVDAs may be considered at risk for the development of bilateral infective endocarditis. Early surgical management should be considered in case of left sided involvement.
Keywords: Bilateral IE, infective endocarditis, IV drug users.

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102. Asymptomatic Complete Av Block In A Patient With Acute Appendicitis : A Treatment Dilemma : An Unusual Case Report

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Background: An Atrioventricular block is a loss of the regular function of the cardiac electroconductive pathways linking the sinoatrial node (SA) and the ventricles via conduction through the atrioventricular node. Complete AV Block (CAVB) indicates complete loss of communication between the atria and the ventricles. The appropriate preparation of the patient with asymptomatic CAVB for non-cardiac surgery is controversial. Despite the fact that there is limited literature to support the practice, temporary pacemakers are often inserted prophylactically. Planning for anaesthesia technique which least alters the cardiac stability is essential.
Case Report:A 39 years old male with acute appendicitis was scheduled for appendectomy. His pre operative ecg showed Complete AV Block. There was no history of chest pain, breathlessness, palpitations Or leg swelling and no history of giddiness or syncope attacks. The patient is not a known diabetic, hypertensive, or coronary artery disease in the past. The patient had no history of drug intake, trauma, or previous surgeries. He is a smoker for at least 20 years and There was no feature in resume and family history. Heart rate was 42/min, and blood pressure was 120/80 mmHg. The patient's cardiac examination was normal. Heart rate was 39/min in her electrocardiography, and it had a complete av block (Figure1). Abdominal Ultrasound documented acute appendicitis. Echocardiogram documented no wall motion abnormalities, LVEF was 81 %, and normal valvular anatomy and function. There was no distinct pathology in laboratory results. He was admitted in Kudungga General Hospital for 3 days and the surgeon cancelled his appendectomy schedule due to the risk of his complete av block hence the anesthesiologist and cardiologist has approved to do the surgery with epidural anaesthesia without the necessity for pacemaker implantation in case of emergency.
Conclusion: The appropriate preparation of the patient with asymptomatic CAVB for non-cardiac surgery is controversial. Despite the fact that there is limited literature to support the practice, temporary pacemakers are often inserted prophylactically. Problems like bradycardia, hypotension, arrhythmias, cardiac arrest, sudden death can occur in patients undergoing incidental surgeries. Planning for anaesthesia technique which least alters the cardiac stability is essential.
Keywords : Complete AV Block, Bradycardia, Pacemaker, Non Cardiac Surgery, Anaesthesia, Acute Appendicitis

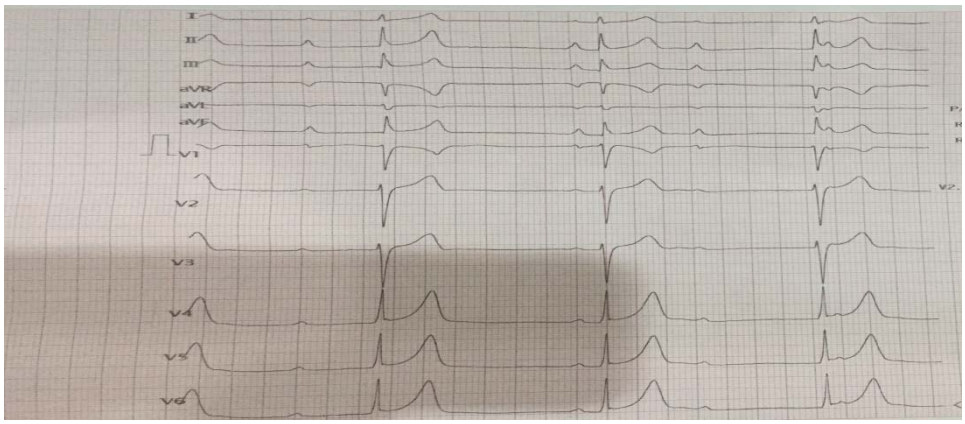

Figure 1. ECG showing no relationship between P wave and QRS complex suggestive of CAVB

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103. *Diagnostic Approach of Coronary Cameral Fistula : Rare Presentation in Adult Case with Unstable Angina Pectoris*

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Background : Coronary cameral fistula (CCF) is congenital or acquired abnormal communication of coronary artery with cardiac chamber and considered as the most common type of coronary artery fistula (CAF). Incidences are rare, less than 0,002 %. Symptoms vary depend on shunt entity caused by fistula, which may progress into heart failure, myocardial ischemia, cardiac tamponade, arrhythmia, and in some cases, sudden cardiac death. That makes this case hardly detected and usually accidentally found through angiography.

Case Illustration and Discussion : 45 years old man came to emergency room with typical chest pain. Patient underwent several examination without any significant abnormality during resting echocardiography and normal cardiac biomarker result. He was diagnosed with unstable angina pectoris and hospitalized for 3 days. After being discharged, patient was evaluated using Treadmill Stress Test (TMT), resulted ischemic response. Patient was referred for coronary angiography, and the result showed dual CCF originate from left anterior descending artery (LAD) D1 and proximal segment of right coronary artery (RCA), both entering left atrium (LA). Patient was discharged without further intervention. Then, he was reevaluated using Ergocycle Stress Echocardiography, also resulted ischemic response. Myocardial ischemia can caused by steal phenomenon effect from fistula. Multimodality approach using clinical examination and imaging tools are needed to establish CCF. Coronary angiography remained as first line imaging tool for CCF diagnostic for several decades. However, in recent years, Computed Tomography (CT) angiography and Cardiovascular Magnetic Resonance (CMR) also proven to have significant effect to evaluate CCF.

Conclusion : CCF is considered as rare major coronary anomalies that can cause hemodynamic disturbances due to its shunt effect. Multimodality approach using clinical findings and imaging procedures such as stress imaging, coronary invasive/CT angiography and CMR give better information about CCF.

Keywords : Coronary Cameral Fistula, Coronary Angiography, Treadmill Stress Test, Stress Echocardiography

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104. **Chest Pain in Coronary Artery Disease patient Concomitant with Hypertrophic Cardiomyopathy and Wolff-Parkinson-White Syndrome**

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Background: Chest pain is a major manifestation in coronary artery disease (CAD). However, determining etiology of chest pain in CAD patient concomitant with hypertrophic cardiomyopathy (HCM) can be challenging. We report a case of CAD patient concomitant with HCM and Wolff-Parkinson-White (WPW) syndrome in a 60-years-old male.

Case Illustration and Discussion: A 60-years-old man known for CAD and history of coronary stent placement presented to Emergency Department complaining typical angina at rest, palpitations and black outs. He had history of recurrent chest pain, even after complete revascularization 3 years before. He was an ex-smoker, his brother died at age of 50 due to unknown causes. On admission, he was soporous and tachycardic. Physical examination showed cardiomegaly. A 12-lead ECG showed irregularly irregular rhythm, rate 140x/min, with broad, multifocal QRS complexes alternating with narrow QRS complexes. He underwent DC cardioversion and reverted to sinus rhythm with WPW pattern. Coronary angiography was performed with no significant stenosis and patent previous stent. Echocardiography revealed significant LVH (IVSd 19.9mm, PWd 17.5mm), average GLS -13.8% suggestive HCM with dynamic elevated LVOT gradient (38.9 mmHg), good systolic function and no significant valvular lesions. Patient diagnosed as HCM and WPW syndrome and discharge with propafenone and oral anticoagulant and scheduled for electrophysiology study.

The causes of chest pain in HCM include myocardial ischaemia due to microvascular dysfunction, increased LV wall stress and LVOT obstruction. Concomitant HCM and WPW syndrome is a rare condition, with most reports in literature on familial form related to PRKAG2 mutation.

Conclusion: Chest pain is a common manifestation in HCM and could be hard to distinguish with CAD, and concurrence of HCM and WPW has been variously reported. Coronary angiography is indicated in certain patients including symptomatic patients with previous coronary revascularization procedures.

Keyword: Coronary Artery Disease, Hypertrophic Cardiomyopathy, Wolff-Parkinson-White syndrome, Chest Pain

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105. **Direct Oral Anticoagulant after Bleeding Event in Deep Vein Thrombosis: A Case Report**

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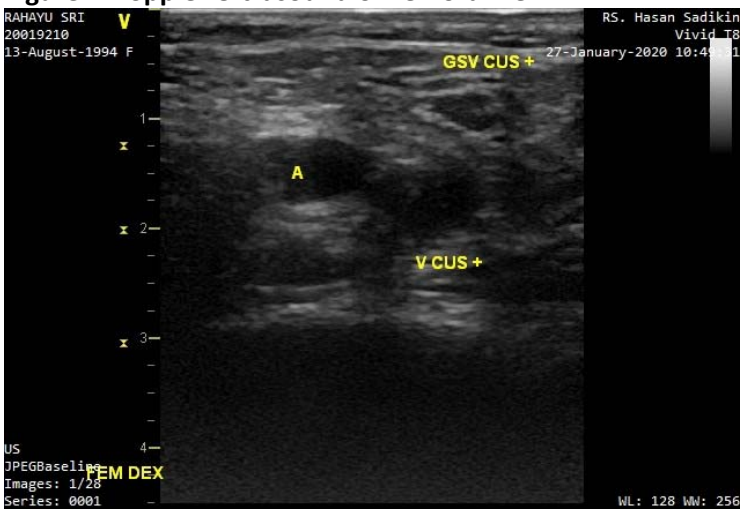
Background Venous Thromboembolism (VTE) is the third common cause of cardiovascular death. Anticoagulation is the cornerstone of VTE treatment, but bleeding is still the main adverse events. We present a case of Intraocular bleeding after anticoagulation for Deep Vein Thrombosis (DVT).
Case Illustration and Discussion A 26-year-old female, known as Autoimmune Hemolytic Anemia and routinely visiting hemato-oncology outpatient clinic, was referred to emergency department with unilateral swelling of lower extremity for a week. The vital sign is stable with anemic conjunctivae, icteric sclerae, and hepatosplenomegaly. The calf diameter of right lower extremity is 4.5 cm bigger than the other side with venous ulcer in pretibial area. The laboratory examination showed an elevated D-Dimer level. Wells score was calculated with score of 5 (DVT Likely). Complete Vascular Ultrasonography was performed with compression ultrasound (CUS) positive in the right femoral vein and right great saphenous vein. Patient was treated with Enoxaparin 60 mg twice daily. During hospitalization, she complained of abruptly blurred vision and was diagnosed with intraretinal hemorrhage. The platelet level was also decreased more than 50%. Thus, she was diagnosed with Heparin Induced Thrombocytopenia. LMWH was stopped. Vena cava filter should be an option in this patient, but the resources were scarce. Four days after bleeding events, anticoagulant was restarted using Rivaroxaban 15 mg twice daily. A systematic review and meta-analysis had stated that direct oral anticoagulants (DOACs) have a lower rate of major bleeding, particularly intraocular bleeding when compared to parenteral therapy and Vitamin K Antagonist. However, no literature stated about timing to reinitiating antithrombotic treatment after intraocular bleeding.
Conclusion Anticoagulant therapies can lead to bleeding complications that uneasy to treat. The decision to restart anticoagulant therapy should be balancing the risk and benefit of preventing thromboembolic and bleeding risk.

Keywords: Venous Thromboembolism, Direct Oral Anticoagulants

Figure1. Doppler Ultrasound of Femoral Vein



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106. **Case Report : Angina in Patient with Non-Significant Coronary Artery Disease**

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Background: Myocardial infarction with non-obstructive coronary arteries (MINOCA) is an intriguing clinical entity that is being increasingly recognized with the more common use of coronary angiography during acute myocardial infarction. Importantly, the management of these intriguing patients is predicated upon their initial recognition and subsequent evaluation to elucidate the pathophysiological processes responsible for their presentation.
Case illustration and discussion: A 57-year-old man came with typical angina. Three weeks ago the Patient had STEMI anterior extensive Killip II with type 2 Diabetes Mellitus, failed fibrinolytic and underwent rescue PCI. The patient had cardiomegaly without sign of heart failure. Electrocardiography showed OMI inferoanterior, ischemia high lateral, without ST-T changes. Normal cardiac enzyme was found and the patient was diagnosed with unstable angina pectoris high lateral Killip I. Coronary angiography showed non-significant CAD (30% stenosis LAD in proximal portion after first diagonal branch).
MINOCA occurs in 1–14% of myocardial infarction cases and occurs in younger patients, more often female and tend to have fewer cardiovascular risk factors. The differential diagnosis for MINOCA includes myocarditis, coronary microvascular disease, myocardial diseases such as Takotsubo and imbalance between oxygen supply and demand of myocardium (Type 2 Myocardial Infraction). Multiple causes have been identified, highlighting the importance of following a diagnostic algorithm. Patient with type 2 DM has associated with insulin resistance can cause macrovascular and microvascular coronary disorders.
Conclusion: Non-CAD, which is defined as narrowing <50% of lumen diameter on coronary angiography, is a diagnosis of exclusion. Additional examinations are needed to determine the etiology of myocardial infarction, whether it is a combination of plaque disruption, plaque erosion, vasospasm, spontaneous coronary dissection, or other causes. Further examinations are need to find the underlying cause of angina.

Keywords: acute coronary syndrome, fibrinolysis, myocardial infarction with non-obstructive coronary arteries, non-significant coronary artery disease

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107. **A Rare Case of Intracardiac Tumor : a Male with Right Atrial Myxoma**

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Background Primary intracardiac tumors are rare and approximately 50% are myxomas. Most myxomas are found in the left atrium, only 20% found in right atrium.The incidence of cardiac myxoma peaks at 40 to 60 years of age, with a female to male ratio of approximately 3:1. We report a case myxoma in the right atrium in male patient, which uncommon for this tumor.
Case Illustration and Discussion A 66 year old man with left and right sided heart failure demonstrate as increasing dyspnea omn exertion and intermitten ankle edema. ECG showed AF NVR, RAD, RVH, ICRBB. Echocardiography showed dilated RA, RV; normal LV systolic function (LVEF 60%) with normokinetic at rest; diastolic dysfunction; normal valves, normal RV contractility, and suggestive RA myxoma.
Myxomas is the rare type of benign primary cardiac tumor. Only 20% cases are found in right atrium and mostly found in woman. Most of the cases of right atrial myxoma are asymptomatic and if there were any, symptoms present with obstructive symptoms producing intracardiac flow disturbances, embolization, and/or constitutional symptoms. In this case we founded only constitutional symptoms.
Conclusion Atrial myxoma are the most common type of primary cardiac tumor and it can cause ranges of clinical manifestations. A high clinical suspicion, prompt diagnosis with appropriate imaging modalities such as echocardiography is essential in diagnosis and further management.
Keyword: Cardiac Tumors, Right Atrial Myxoma

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108. **Unusual Symptoms in Aortic Dissection : How to Manage it?**

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Background: Early diagnosis of Aortic Dissection (AD) is important to diminish the mortality rate. It's often misdiagnosed due to variety of symptoms. The management is challenging due to limitation of human resources and high cost. We present case of extensive AD, with unusual symptoms and need surgery.
Case Illustration and Discussion A 47 years old male came to emergency room with dyspnea. Patient felt more comfortable in sitting position. There're no symptoms of chest pain like tearing or epigastric pain, palpitation, or faint. In prior hospital, he diagnosed with community acquired pneumonia and congestive heart failure. Patient was stable, with improvement sign of heart failure. ECG showed sinus tachycardia with left ventricular hypertrophy. Echocardiography revealed severe aortic regurgitation due to flail left coronary cusps with aneurysm of aortic root, and aortic dissection extending to distal descending aorta. CT angiography aorta demostrated aortic dissection from aortic root to left femoral artery. Patient was diagnosed AD DeBakey type I Stanford A and referred to Harapan Kita Hospital for emergency surgery with total arch replacement and bentall procedure. Postoperative complication was acute kidney injury and stroke. He discharged at 7 days post-surgery in good condition.
Acute heart failure (AHF) can be caused by aortic regurgitation (AR) due to dilatation of aortic root related to AD. It is unusual appearance of AD that hinder diagnosis. Treatment of AHF and emergency surgery can produce better outcome. The patient was achieved surgery at 26 days of hospitalization. Surgery reduces 1-month mortality from 90% to 30%.
Conclusion The patient had unusual symptoms of aortic dissection, which was dyspnea due to AHF resulted from acute AR. The aortic dissection was DeBakey type I Stanford A. Treatment of AHF and emergency surgery with total arch replacement and bentall procedure was successful.

Keywords: Acute Heart Failure, Aortic Dissection, Bentall surgery

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109. **Myocarditis Complicating Typhoid Fever in Young Adult Patient**

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Background Typhoid is an endemic disease in Indonesia. Myocarditis is a rare complication of typhoid fever which may have benign course to fatal outcome.
Case Illustration A 28-year-old male presented with chief complaint of abdominal pain and fever for two weeks. On physical examination, his BP 120/80 mmHg, HR 95 bpm, RR 21 bpm and febrile with temperature 39^0C. His abdomen was non-distended, mildly tender with normal bowel sound and no organomegaly. His lung and heart sounds were normal. The laboratory investigations showed positive Widal-test 1/320 for *Salmonella typhii* O and H, normal CBC, urinalysis, and LFT. Electrocardiography at admission was normal. Abdominal ultrasound showed normal. He was diagnosed typhoid fever and treated with ceftriaxone. The next day patient complained typical chest pain and the electrocardiography revealed sinus bradycardia (51 bpm) and nonspecific ST-T changes. He denied history for cardiovascular event. Chest X-ray showed normal. According to ESC Guideline of Myocarditis, patient suspected myocarditis and underwent TTE with the result LVEF 55%, dilated LV, hypokinesis of basal-mid anterior, anteroseptal, inferoseptal, apicoanterior, apicoseptal and normokinesis of the rest segment, trivial MR and mild PR. He was diagnosed Typhoid Myocarditis, Ramipril 2.5 mg was added. He was fully recovered and discharged on eighth day of hospitalization with normal vital sign and Bisoprolol 2.5 mg was added. A month later, he had no complaint and underwent follow-up TTE with the result LVEF 60% and mild hypokinesis of basal anteroseptal and normokinesis of the rest segment. Follow up ECG also showed sinus rhythm.
Conclusion Myocarditis has wide ranging clinical pictures from asymptomatic, fatigue until typical chest pain which may mimic myocardial infarction. Myocarditis should be suspected in Typhoid patient with abrupt chest pain and ECG abnormalities. Early diagnosis and proper treatment should be done to prevent heart failure, lethal arrhythmias and sudden cardiac death.
Keyword: Typhoid Myocarditis; Myocardial Disease; Echocardiography

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110. **Case Report**

The Role of Lidocaine on Acquired Long QT Syndrome

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Background: Acquired Long QT syndrome is a condition of electrical deporalization and reporalization of the ventricles become more prolong that most often due to specific drugs, or electrolyte imbalance that can precipitate ventricular arrhythmia and cause sudden cardiac death.
Case Illustration: A 56-year-old woman came with palpitation complaints. Patient has a history of chronic kidney disease and chronic heart disease. Patient takes medication regularly and amitriptyline for her anxiety. On physical examination found anaemic conjunctiva, fast regular heart rate and pulsus deficit. Electrocardiographic examination showed sinus rhythm 93 beats per minute with QTc 514 ms, PVC R on T and became VT. Chest X-ray revealed cardiomegaly and pulmonary interstitial oedema. On bedside monitor, the electrocardiographic rhythm changes. There is sinus with many PVCs then PVC R on T become monomorphic VT that does not last more than 30 seconds. Patient then receives an amiodarone infusion, but 30 minutes later patient experiences cardiac arrest. After CPR then return of spontaneous circulation, patient is given lidocaine in a slow bolus IV and the condition gradually improves. Patient is then referred. ECG shows 514 ms QTc by the bazett method. High suspicion of the presence of drugs that can prolong QTc such as amitriptyline in this patient. However, chronic renal failure is more prone to prolongation of QTc. Also, genetic disorders cannot be ruled out yet. Amiodarone may have triggered a cardiac arrest following lethal ventricular arrhythmia event in this patient. Hence, after the administration of lidocaine, patient's condition gradually improved and then stable to be referred.
Conclusion: Amiodarone, frequently given for VT is contraindicated in patients with prolong QTc. Lidocaine may have a role to treat ventricular arrhythmia due to prolong QTc. Furthermore, evident of multiple risk factors which make prolong QTc should prepare clinician to avoid any anti arrhythmia drugs that prolong QTc.

Keywords : Acquired long QT syndrome, lidocaine, prolong QTc, ventricular arrhythmia

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111. **Prolonged corrected QT Interval (QTc) due to Azithromycin Use in an Elderly Woman with Preexisting Heart Disease: A Case Report**

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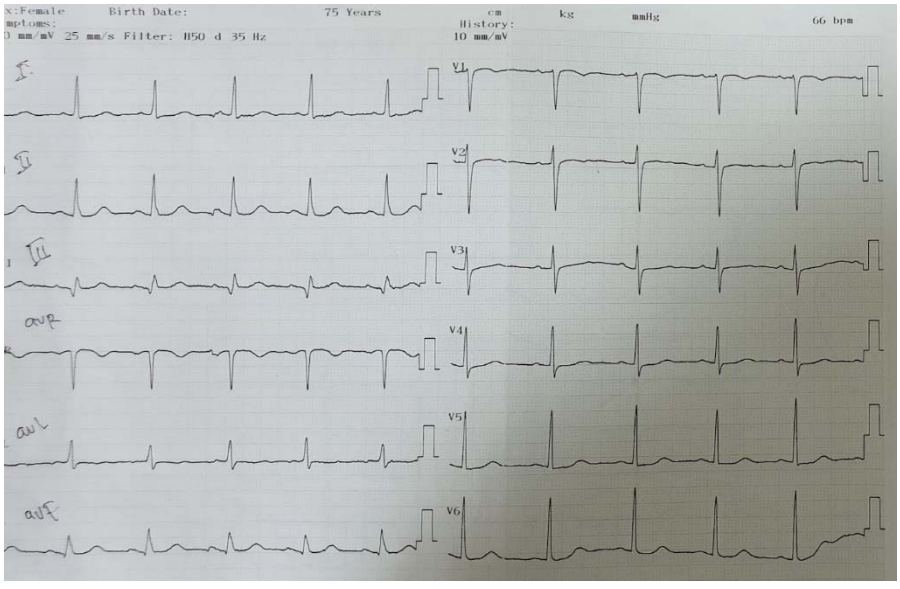
Background Azithromycin is a macrolide antibiotic that is commonly used to treat various infectious diseases in clinical settings. Studies have reported association between azithromycin use and QTc interval prolongation. Azithromycin may induce QTc interval prolongation and fatal cardiac arrhythmia in patients who are at risk. Risk factors that may contribute to QTc prolongation include: female sex, older age, cardiovascular disease, hypokalemia or hypomagnesemia, bradycardia, and use of other QTc prolonging drugs. Elderly patient with heart disease may be more susceptible to prolonged QTc interval due to the arrhythmogenic drug.

Case Illustration & Discussion This 75-year-old female presented to the ER with profuse vomiting, generalized body weakness, and tremor. Patient was previously treated with azithromycin, ondansetron, and esomeprazole for her lower respiratory tract infection. She also has a medical history of uncontrolled hypertension on valsartan and bisoprolol. History of coronary artery stents on clopidogrel and rosuvastatin. The patient was without known congenital long QT syndrome nor any allergies. The initial laboratory test showed critical electrolyte imbalance. The ECG confirmed marked prolongation of QTc interval from 0.46 sec to 0.50 sec. The electrolytes were corrected using sodium chloride, potassium chloride, and calcium gluconate. Azithromycin and other QT prolonging drug therapy discontinued. Bisoprolol continued. After three days, the patient was discharged home with full recovery.

Conclusion We presented an acquired prolonged QTc interval case associated with the use of azithromycin and electrolyte imbalance in an elderly woman with heart disease. Immediate diagnosis and treatment is crucial to prevent ventricular arrhythmia that may lead to cardiac arrest or sudden death. Clinicians should be aware when considering azithromycin use in patients with risk factors. Understanding drug interactions may be useful in limiting cardiac events with prescribing azithromycin as one of the most commonly used antibiotics.

Keywords: Prolonged QTc interval, azithromycin, risk factors, electrolyte imbalance.



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112. **Case Report**

Suspect Digoxin Toxicity in a Remote Hospital

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Background: Digoxin is cardiac glycoside that has wide-ranging beneficial effects and play an important role in appropriately selected patients with heart failure and atrial fibrillation. However, digoxin has a narrows therapeutic windows and its proper dosing required to avoid potentially life-threatening toxicity.
Case Illustration: A 55-year-old woman came to emergency department with complaints of palpitations. Patient claimed to be stressed about her work. Patient was known to have a history of atrial fibrillation 1 year ago with routine treatment of digoxin, warfarin, furosemide and imidapril. On physical examination, patient full consciousness, there were no neurological disorders, stable hemodynamic, irregular rapid heartbeat accompanied by pulsus deficit. On electrocardiographic examination, there is an atrial fibrillation rhythm with a rapid ventricular response. Chest X-ray revealed cardiomegaly. Day one hospitalization with digoxin IV for rate control, the patient then feels nausea and discomfort in the stomach. Then, digoxin IV is stopped. On ECG examination then showed broad st depression and multiple PVC R on T. Patient survived from two episodes of ventricular fibrillation. Electrolyte serum is unremarkable and creatinine clearance 50 mL/min. On ECG day one hospitalization, there is atrial fibrillation with slow ventricular response, broad ST depression with reverse tick sign and multiple PVC R on T. Patient complaint of severe nausea after getting digoxin IV at a dose of 0.5 mg b.i.d. Serum digoxin levels cannot be checked. However, it is strongly suspected that patient had digoxin toxicity after experiencing two episodes of VF.
Conclusion: In remote hospitals, early recognition of digoxin toxicity plays an important role, which can be done clinically and by ECG examination. The serum electrolytes and kidney function must be withdrawn. A history of routine medication using digoxin should be considered to use another rate control such as beta blockers or ccb non-dihydropirine to avoid the occurrence of digoxin toxicity.
Keywords: Digoxin toxicity, remote hospital, reverse tick sign, atrial fibrillation, ventricular fibrillation.

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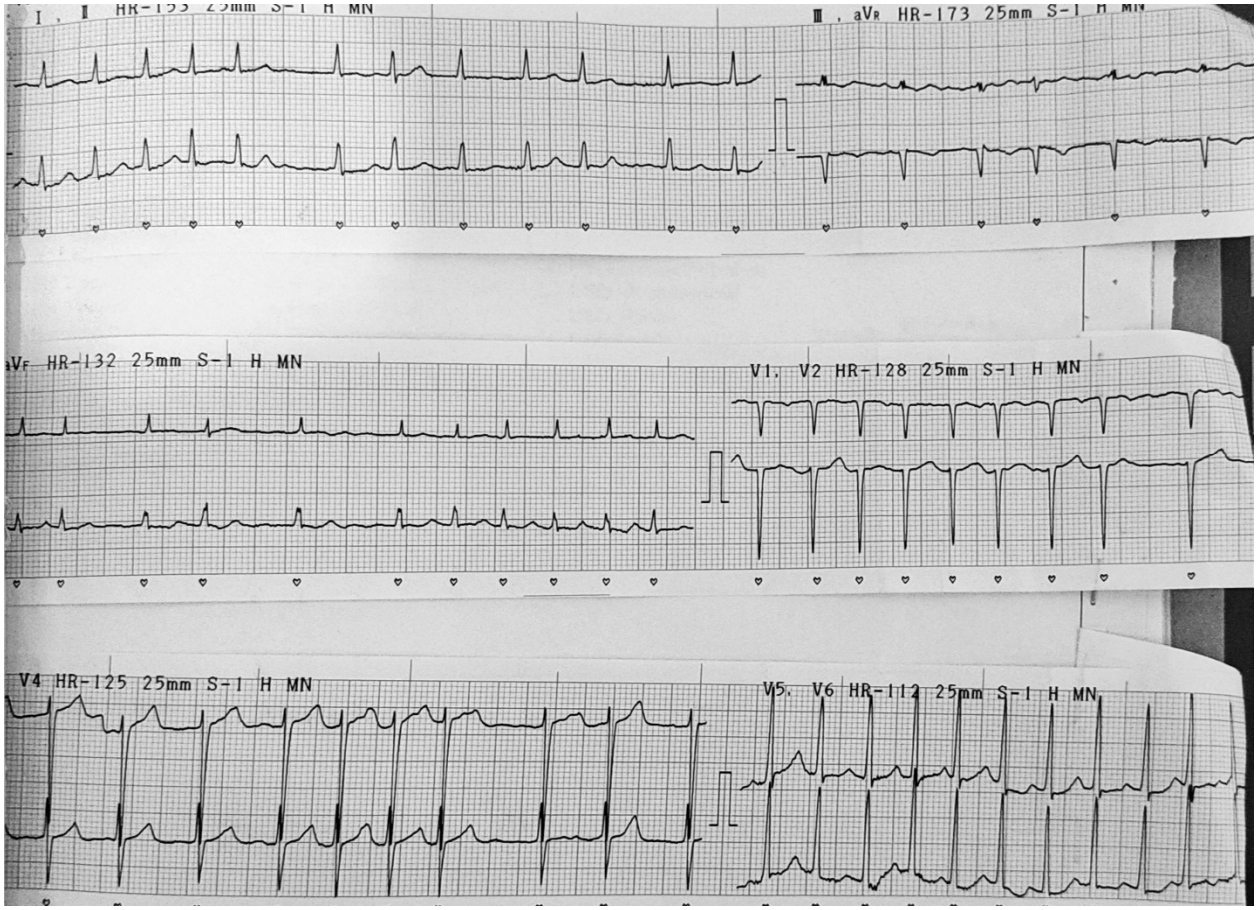

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113. **Recurrent Periprocedural Ischemic Stroke During Cardiac Catheterization: a Rare Case Report**

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Background: Stroke is one of the most dreaded complication of cardiac catheterization procedure with high rate of mortality. Stroke during cardiac catheterization are likely due to catheter manipulation causing embolism. The purpose of this report is to know the possible origin of the stroke, predictor of stroke complication in coronary angiography, and potential therapy to minimize the effect of stroke.
Case Summary: a 78-years-old woman was referred to our ED with NSTEMI with a history of ischemic stroke after PCI procedure 1 year prior to admission. Dual antiplatelet therapy (DAPT), unfractionated heparin (UFH), bisoprolol, and atorvastatin was given. Early invasive strategy was performed within 24 hour. During the procedure, the patient developed lost of consciousness with decortication in her left extremities. Later, Head CT Scan showed wide region of infarct in left lobe caused by cardiac emboli. PCI procedure in non-elective setting have a higher incidence of periprocedural stroke. Other factors such as old age, female, periprocedural medication, and catheterization technique could also increase the incidence of periprocedural stroke. Cerebral angiography could be performed if the operator have experience. The benefit of thrombolysis in periprocedural is still unclear.

Keyword: *Periprocedural Stroke, Percutaneous Coronary Intervention, Ischemic Stroke*

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114. **Multivessel Disease in Coronary Artery Disease Young Age: Should we think about Non-traditional Risk Factor?**

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Background Acute coronary syndrome (ACS) is one of the main causes of mortality and morbidity throughout the world including Indonesia base on epidemiological data. It's mainly considered a disease of middle aged and elderly. In the past recent years, many patient in younger age group suffered from this disease. There are both traditional and non-traditional risk factors that can increase the risk of a person's susceptibility to CVD. The most traditional risk factors are hypertension, diabetes mellitus, smooking and lipid metabolism disturbance.

Case Illustration and Discussion In this case report, we present a 40 years old man came to the hospital with typical chest pain of myocardial infarct with a known risk factor of hypertension, smooking for fifteen years ago and overweight. The patient never had symptom like this before. The ECG showed non persistent ST elevation, Poor R wave progression, with ischemia in high lateral wall and there was elevated in cardiac biomarkers. From trans-thoracal echocardiography show reduced LV systolic function with regional wall motion abnormality. On coronary angiography showed 3 vessel disease with chronic total occlussion in LCx and D1.

The incidence of ACS at young age is very low compared to old age. The prevalence is 2-10% of all coronary artery disease. Hypertension, diabetes mellitus, smooking cessation, and lipid metabolism disturbance are the most cause of traditional risk factors that increase the risk of ACS in young age. ACS that occurs at young age is an important issue because it has an influence on quality and survival.

Conclusion The prevalance of ACS at young age is quite rare. Young patients suffering from CAD and ACS have different risk factor profile, clinical presentation, pattern, and outcome than older patients. The traditional and non traditional risk factors play a vital role in case CAD in young age. This condition appearing at early age has devastating effects on quality of life, survival, social, and economic burden on patients and their community.

Keyword: Acute Coronary Syndrome, young age, traditional risk factor

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115. **Non-ST-Segment-Elevation Myocardial Infarction-Associated Cardiogenic Shock in Patient with Severe Aortic Stenosis: A Challenging Case**

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Background

Cardiogenic shock is among the complications of myocardial infarction. This condition is getting worse in the presence of aortic stenosis (AS). Patients with cardiogenic shock secondary to AS are very difficult to treat medically, hence, the high mortality and few successful outcomes[1]. Thus, the management remains challenging.

Case illustration and discussion

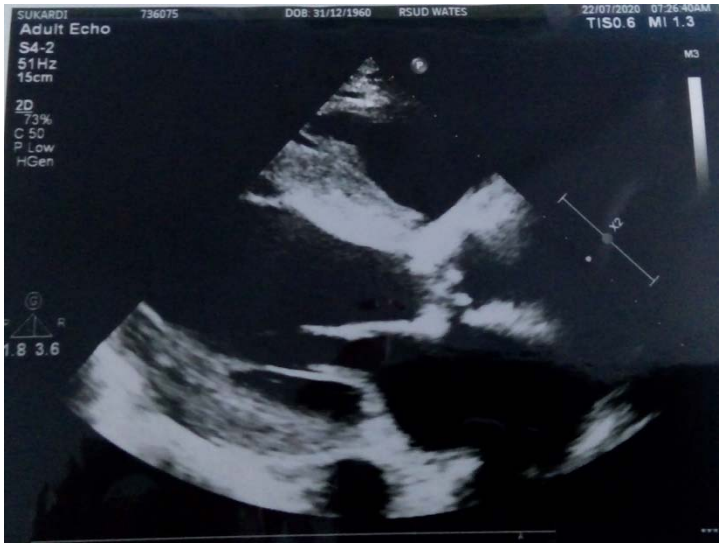
A 60-year-old man presented with dyspnea accompanied with diaphoresis. Physical examination showed tachycardia and tachypnea with fine rales in both sides of the lung, followed with hemodynamic instability. Cardiac auscultation revealed grade III/VI systolic murmur. ECG showed sinus rhythm with left ventricle (LV) hypertrophy. On laboratory testing, there was elevated troponin I level (2.49 mg/L). Then, he was diagnosed with NSTEMI, cardiogenic shock and admitted to cardiac intensive care unit. On the second day of hospitalization, his dyspnea was getting worse. Echocardiography was done and showed severe aortic stenosis with moderate mitral regurgitation. Beta blocker was administered and the patient's hemodynamic was getting stable. However, the dyspnea still persisted. It was so challenging to overcome this condition with medical therapy only.

NSTEMI occurred in this patient was probably due to severe AS. Patient with AS has been shown to have decreased coronary flow reserve (CFR) limiting the capacity of the coronary circulation to increase flow to match myocardial oxygen demand. This impairment of CFR causes myocardial ischemia[2]. In addition, as the disease advances, the hypertrophic LV and the excessive afterload lead to systolic and diastolic LV dysfunction[1]. Cardiogenic shock might happen. In this state, interventional therapy (transcatheter aortic valve replacement) is more recommended than medical therapy only[1,3]. Unfortunately, it is not provided yet in our hospital.

Conclusion

The treatment for cardiogenic shock associated with aortic stenosis is more complicated. The interventional therapy might be needed to achieve the best patient outcome.

Keywords : cardiogenic shock, aortic stenosis, NSTEMI



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117. **Delayed Reperfusion in Young ST-Segment Elevation Myocardial Infarction (STEMI) Patient: COVID-19 Era**

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Background: Management of a myocardial infarction requires speed and accuracy. COVID-19 pandemic has changed the structure of health services which has an impact on medical care for both COVID-19 and non-COVID-19 patients. COVID-19 era presents new challenges in the face of a myocardial infarction.
Case Illustration and Discussion: A 33 years old male came to emergency department due to sudden onset of progressive chest pain and dyspnea 1 hour before admission. There was no fever and cough. Patient had early onset of hypertension, poorly controlled by candesartan 8 mg once daily. Patient was moderate smoker. Other medical history was remarkable. Physical examination showed blood pressure 160/100 mmHg, tachycardia 122 bpm, and others found to be normal. Further investigation revealed an extensive anterior-inferior ST-segment elevation myocardial infarction (STEMI) on electrocardiography and an increased in troponin T (1165.0 ng/L). Non contrast chest computed topography showed imaging suggestive typical viral pneumonia due to ground glass appearance at periphery. The patient was initially planned for PCI but could not be done because of a suspected COVID-19 infection. So, the patient was reperfused with fibrinolytic but failed. A successful PCI was then performed after negative COVID-19 PCR test was released 2 days later. During the pandemic, PCI is still the main choice of reperfusion but can only be done in a special catheterization room for COVID-19 patients. This patient came in with STEMI who was supposed to have a PCI reperfusion as soon as possible but was hampered due to a suspicion of COVID-19 infection which turned out not proven.
Conclusion: A change caused by the COVID-19 pandemic requires comprehensive adjustments to be made so that effective STEMI management can be achieved.

Keyword: STEMI, COVID-19, Delayed reperfusion

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118. Asymptomatic Right Ventricular Fibroma in 1-year-old Infant.

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Background : Cardiac tumors in children are rare, are more commonly benign, and differ in types when compared with those in adults. Approximately one-third of patients with cardiac fibroma are asymptomatic, and tumors are detected incidentally.[1]
Case Illustration : A 1-year-old infant was referred from Atambua Hospital to Outpatient Department in Siloam Hospital Kupang with suspected congenital cardiac problem since birth. According to the patient's parent there is neither complaint from the child nor growth and development problems. Family history of cardiac problem was denied. In overall pediatric examination was normal. Echocardiography showed a large (2.61 cm x 1.72 cm) homogeneous mass appended to the Right Ventricle (RV) free wall. There was neither significant RV outflow tract obstruction nor stenosis of tricuspid valve. Approximately 90% of primary cardiac tumors in children are benign, mostly consisting of non neoplastic hamartomatous lesions such as rhabdomyoma and fibroma. Fibroma, derived from connective tissue fibroblasts, is the second most common benign primary cardiac tumor. Most fibromas are found in infants younger than 1 year.[1] The incidence is reported to be 0.03–0.32%, with fibroma accounting for approximately 25 %. Fibromas, usually single and large, are most commonly found in the left ventricular free wall or septum and less commonly involve the RV or Right Atria.[2] Approximately one-third of patients with cardiac fibroma are asymptomatic, and tumors are detected incidentally. However, symptomatic patients may present with arrhythmias, heart failure, or sudden cardiac death.
Conclusion : We report a case of a 1-year-old infant with asymptomatic large cardiac fibroma in an atypical location such as RV. In this case, surgical therapy is the only treatment option to prevent complications in the future.

Keywords: Cardiac tumor, fibroma, infant

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119. **NSTEMI and New Onset Diabetes Complications in a Critically Ill Patient with COVID-19: A Case Report and Insight**

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Background: COVID-19 pandemic has emerged as a major global public health emergency. SARS-CoV-2 does not only causes viral pneumonia but has major implications for cardiovascular system. Patients with cardiovascular risk factors are vulnerable and have higher morbidity and mortality rate when suffering from COVID-19.

Case ilustration and discussion: A 51-year-old man was admitted with chest and epigastric pain, and shortness of breath since 1-day-ago. No personal and family history of cardiac disease and diabetes. ECG examination revealed ST segment depression in V5-V6, QTc 552mS, and pathological Q-wave in inferior lead. LV dysfunction was found on echocardiogram. He also had elevated levels of troponin T, HbA1c, and blood glucose level; NLR was 4.63. Chest radiograph revealed typical ground-glass changes of viral pneumonia and bilateral pleural effusions. He was confirmed COVID-19 by swab test. ABG analysis showed severe ARDS.Viral infection induces an excessive immune reaction and generates a cytokine-storm which affects cardiovascular cells. Diabetes is one of the most important comorbidities linked to the severity of all three known human pathogenic coronavirus infections. Mechanisms that might play a role in COVID-19 infection: SARS-CoV-2 virus hijacks an endocrine pathway that plays a crucial role in blood pressure regulation, metabolism, and inflammation; acute hyperglycaemia upregulate ACE2 expression on cells which might facilitate viral cell entry. Potential β-cell damage caused by the virus leads to insulin deficiency.

Conclusion : Major cardiac complications of COVID-19 are being reported. Etiologies are multifactorial, comprise of direct viral myocardial damage, enhanced inflammatory status that cause pro-coagulant effects and coronary plaque rupture, ACE2 mediated viral infection, and drug toxicity. COVID-19 patients with cardiac injury and diabetes mellitus show worse outcomes with high in-hospital mortality rate. Drugs currently used to treat COVID-19 are known to prolong the QT interval and may induce arrhythmia.

Keyword: COVID-19, cardiac injury, myocardial infarction, diabetes mellitus

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120. Ascending and Arch Aortic Aneurysm with Aorta Regurgitation In Marfan Syndrome

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Backgrounds: Aortic root dilation was found in 60% of a series of patients with Marfan's syndrome. This case demonstrate how to diagnose and treat of aneurysm aortae caused by Marfan syndrome.
Case Illustration: A 35-year-old woman had felt right chest pain, back pain, fatigue, and palpitation since 2 year. The patient didn't have a family history of similar problem. In examination patient had arachnodactyly with positive wrist signs, pectus carinatum deformity, striae, scoliosis, enophthalmos, and flat feet. The ratio of upper and lower segment is 0.77. The ratio of arm span and high is 1.06. The patient had sinus tachycardia of 120x/min. Her heart sound was soft with diastolic murmur of aortic valve. Chest x-ray showed cardiomegaly, widened mediastinum and thoracic scoliosis. Her transthoracic echocardiogram confirmed the presence of chronic severe aortic regurgitation with a dilated left ventricle with an ejection fraction 49% and a ascending aortic aneurysm that extends to the arch aortic. CT was showed a very large aneurysm affecting the ascending to arch aortic measuring approximately 8x9cm. The cardiologist focused treatment on his heart rate at target below 70x/min and his systolic pressure ≤ 110 mmHg. The patient refused the surgery treatment so we treated her with atenolol, ramipril, furosemide, PPI were given as supportive medication.Thoracic aortic aneurysms are the main cardiovascular complication of Marfan syndrome. The diagnosis of Marfan syndrome is established using the revised Ghent criteria in suspected cases and aortic root enlargement (Z-score≥2.0). Marfan Syndrome management should be blood pressure control and restrictions on physical activities. The treatment may include surgical and medical to slow down the dilation of the ascending aorta, and aortic repairment.
Conclusion: It's very important to recognize early about marfan syndrome to require multidisciplinary care and prevent cardiovascular complication.
Keywords: Ascending Aortic Aneurysm, Aorta Regurgitation, Marfan Syndrome

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121. **Painless Aortic Dissection Stanford A Debakey II in Patient With Undiagnosed Marfan Syndrome During Pregnancy : Management of High Cardiovascular Risk With Multidisciplinary Care**

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Background: Pregnant women with Marfan's syndrome needed multidisciplinary approach to evaluate pregnancy status, fetal and maternal outcome. Marfan's syndrome was an inherited autosomal dominant with mutation of fibrillin-I (FBN1) gene. Pregnant woman with MFS can lead to aortic dissection. It's increase 23% of maternal mortality and 35% of fetal death.
Case Illustration: A 30-year-old female, gravida 2, para 1 at 20 weeks of singelton intrauterin gestation referred from secondary hospital care with valvular heart disease (severe aortic regurgitation due to dilatation of the aortic root and severe mitral regurgitation). Due to her severe myopia, history of aortic dissection in her family, enlarged of aortic root, pectus excavatum ,scoliosis and arachnodactyly, de novo MFS was suspected. She was diagnosed with marfan's syndrome according her systemic score was 10 (posive >7), and calculated aortic z score was 6.2 (positive >2). Intimal tears and dilatation of the aortic root were considered to terminate the pregnancy. It's can result bad neonatal outcome. For the management of a potential vascular catastrophe , monitoring of delivery and repairing the aortic root, we needed to multidisciplinary approach.
Conclusion: Pregnant women with Marfan's syndrome need a highly responsive and coordinated team effort for preventing vascular catastrophe and having optimal maternal and neonatal outcome.

Keywords: Marfan's syndrome, high-risk pregnancy,systemic disorder.

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122. The Patency of Percutaneus Transluminal Venoplasty in a Hemodialysis Patient With Symptomatic Central Venous Stenosis: A Case Report and Literature Review

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Introduction: Central vein stenosis (CVS) is common in hemodialysis patients because of the placement of cardiac intravascular devices, venous access and compromises vascular access. CVS refers to severe stenosis in a major intrathoracic vein. The effect may appear until an arteriovenous fistula (AVF) or graft is created in the ipsilateral arm or forearm for hemodialysis. The presence of an ipsilateral arteriovenous fistula or graft often leads to arm edema, severe venous dilatation, and recurrent infections.
Case presentation: We report the case of a patient 50-year-old female with routine hemodialysis who developed symptomatic CVS to illustrate the problem and review the related litelature. A Catheter-based venography showed a severe stenosis of her subclavian vein. This patient developed severe swelling of her left arms after performed ipsilateral arteriovenous graft due to central venous stenosis. The symptoms were recurrent to multiple endovascular interventions. Despite in our understanding of its recognition and comprehensive etiology of its consequences, CVS still remains a serious problem. Prevention is better than cure, because of lack of evidence and effective therapeutic options. We discuss the incidence and risk of central vein stenosis in hemodialysis patient and reported the patency of endovascular interventions.
Conclusion: CVS is common problem in a routine hemodialysis patient. Percutaneus balloon angioplasty should be the first treatment of choice. Unfortunately, the primary patency after angioplasty or stenting is low. It can be repeated if there is recurrent stenosis.

Keyword: central vein stenosis, percutaneus transluminal venoplasty, arm edema, arterio-venous fistula, graft

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123. Atrial Myxoma Case Series: Atrial Myxoma Presenting with Neurological Problem

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Background: Atrial myxoma is a rare disease with an incidence of surgically resected cases of 0.5–0.7 per million population. We describe two patient cases with atrial myxoma that came to our hospital **Case Description**: First case, a 64 years old female came to our hospital with chief complaint weakness on the right side of extremities started three days ago. There was history of CVD and HNP at 2015. She looked ill with GCS E4VxM6. Physical examination showed NVII paralysis. Motoric strength was 1 point for right sided extremities. Brain MRI showed acute ischemic infark on left temporal-parietal lobe. The echocardiography showed a large mass in the left atrium, moving in and out through MV. Patient planned to underwent resection of atrial myxoma. Second case, a 16 years old man came with chief complaint loss of consciousness and weakness on the right sided of extremities started one days ago. He looked ill with GCS E4V5M6. Physical examination showed NVII paralysis, motoric strength was 2 point for right sided extremities. Brain MRI showed multiple hiperacute lacunar infark on left cerebellum. From echocardiography showed a large mass moving in and out through MV. Patient planned to underwent resection of atrial myxomas. Most of cardiac tumors are benign tumors, mainly myxoma. The classic triad of cardiac myxoma are, symptoms due to cardiac obstruction, cerebral or peripheral embolism and constitutional symptoms like fever and fatigue. Transthoracic echocardiography had up to 95% sensitivity on diagnosing atrial myxoma. Once patient diagnosed with cardiac myxoma urgent surgical resection is recommended due to risk of embolization.

Conclusion: Most primary cardiac tumors are atrial myxoma. Sign and symptom can be vary. Echocardiography is important in diagnosing atrial myxoma. Resection of atrial myxomas is curative with low chance of recurrences.

Keyword: Atrial myxoma, Cardiac tumors, Transthoracic Echocardiography

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124. **Life-threatening Bleeding in Low Risk Prediction: Serenity Turns into Chaosity**

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Background: Advances in antithrombotic therapy, along with an invasive strategy, has been associated with an increased risk of bleeding. The PRECISE-DAPT score is a risk score that represents a standardized tool widely used as predictor of 1-year bleeding in patients receiving dual antiplatelet therapy (DAPT) after percutaneous coronary intervention (PCI).
Case Illustration: A 44-year-old female with Non-ST-segment Elevation Myocardial Infarction (NSTEMI) due to acute occlusion of the RCA underwent successful recanalization with one drug-eluting stents (DES) (CRE8®). The calculated PRECISE-DAPT score was 6. The decision was taken to start DAPT with aspirin and clopidogrel for 12 months. She was then re-admitted due to profuse haematemesis and hypovolemic shock nine days after discharge. Blood tests at admission showed profound anaemia related to acute blood loss (haemoglobin 6.5g/dL; mean corpuscular volume 88.0/µm). The patient was underwent fluid resuscitation, transfused with 4 units of blood, high-dose intravenous proton pump inhibitor. DAPT was withheld for 4 days. At further assessment, single antiplatelet therapy (SAPT) with clopidogrel was then restarted on a background of PPI 5 days after haemoglobin levels remained stable thereafter and no further recurrent bleeding occurred. ESC guidelines state that longer treatment in patients without high bleeding risk (PRECISE-DAPT score <25) was associated with no increase in bleeding. In this patient, among many factors, there was only use of DAPT as the only risk factor contributed to the tendency for bleeding. Proper management of bleeding in the resolution of life-threatening bleeding given to this patient until improvement.
Conclusion: This case illustrates that although in the patient described the low risk prediction and very minimal risk factors for bleeding, it is still possible for the occurrence of bleeding even to the point of life threatening. Therefore, more vigilance and proper handling of bleeding is needed.

Keyword: *dual antiplatelet therapy, bleeding*

125. **An Extremely Rare Combination: Pneumopericardium and Pneumoperitoneum, a Perfect Storm**

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Background: Pneumopericardium is defined as the presence of air within the pericardial space. Simple pneumopericardium produces no discernible circulatory compromise. However, it may progress rapidly to produce cardiovascular compromise or circulatory collapse due to iatrogenic or non-iatrogenic.

Case Illustration: A 47-year-old man had been hospitalized for 7 days due to nausea and vomiting. He was consulted to cardiology department with chief complaint of dyspnea since 8 hours. His ECG revealed sinus tachycardia with low voltage. Chest radiographs showed pockets of radiolucency within the cardiac shadow, indicative for pneumopericardium. Echocardiography can't support the diagnosis due to poor echocardiographic window. A chest CT scan confirmed the presence of the air within the pericardial sac, peritoneum, and the connection between the two. One day after, the patient experienced acute abdomen and clinical signs of peritonitis accompanied by cardiac tamponade, then emergency laparotomy was performed, discovered *perforation* of the *gastric antrum and the fistule peritoneum to the pericardium with pus covered.* The defect was simply plugged with a well-vascularized omental pedicle by Graham patch. The patient admitted to ICU and underwent intensive care procedure. Seven days after, the patient's condition deteriorated due to sepsis, and finally the patient died. The possible mechanism of pneumopericardium in this case could be fistulous communication of pericardium with an infected peritoneal cavity. Since peritoneum completely covers the stomach, perforation of the full-thickness stomach wall creates a communication between gastric lumen and peritoneal cavity. If the perforation occurs acutely, there is no time for an inflammatory reaction to wall off the perforation.
Conclusion: Development of spontaneous pneumopericardium is a very rare complication of gastrointestinal problem. A high suspicion is needed to find the root cause of this case, which turns out the other causes of pneumopericardium besides injury and iatrogenic.
Keyword: *pneumopericardium, pneumoperitoneum*

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126. **Pericardial Effusion as an Early Manifestation of Anterior Mediastinal Tumor in a Young Adult: a Case Report**

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Background: Pericardial effusion needs to get diagnosed early in light of their life-threatening condition, such as cardiac tamponade, and malignancy become the second commonest cause of it. However, it is uncommon for pericardial effusion become the primary feature for undiagnosed malignancy and there are still very few reported similar cases for this.
Case Illustration and Discussion: A 22-year-old athletic male presented to the emergency room with dyspnea, chest pain, and cough. He used to play basketball and soccer every week without any complaint. On physical examination blood pressure was 90/70 mmHg and heart rate was 103 bpm. Echocardiogram showed a severe pericardial effusion with impedning taponade also an aorta and main pulmonary artery compression due to the tumor mass which makes his haemodynamic unstable. CT scan confirmed the presence of an anterior mediastinal tumor, pericardial effusion (3,7cm density), lung metastasize, ascites, pleural effusion and congestive liver disease. An emergent pericardiocentesis was performed; 300 mL of haemorrhagic fluid was drained. Patient were directly referred for fine needle aspiration biopsy because suspicion for malignancy. Before the result came out, patient died due to massive recurrence of pericardial effusion and causing cardiac tamponade.
Malignancy must be considered especially for patients undergo recurrent pericardial effusion and other causes are unlikely. Emergent pericardiocentesis for him was the right choice, although the prognosis such cases are poor with high rates of recurrence. Suspicious for malignancy and unstable haemodynamic due to compression of aorta and main pulmonary artery worsen the prognosis.
Conclusion: Anterior mediastinal tumor causing pericardial effusion, as in our case, is a rare presentation with insufficient report regarding the main treatment approach. Further information from similar case reports are needed because currently no guideline on the most appropriate management for pericardial effusion and so the decision is very patient-physician dependent.

Keywords
Pericardial effusion; pericardiocentesis; cardiac tamponade; anterior mediastinal tumor;
(290 words)

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127. **Case Report**

Pulmonary Arterial Hypertension with Right Ventricular Failure in Postpartum Woman

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Background: Pulmonary arterial hypertension (PAH), also termed as primary Pulmonary Hypertension (PH) or PH group 1, is considered rare. Its prevalence is 15 cases in a million according to a European study. Most patients are women with its ratio to men being 9:5. The onset of symptoms can arise at any age and the symptoms are age related. This case report presents PAH that manifested at age 24 immediately after the patient delivered her first child.
Clinical Illustration and Discussion: A 24 years old woman complained for dyspne that had been going for a week. She also said her legs have been swollen in recent five months. Three weeks before the legs started to swell, the patient went under caesarean section. She denied any history of heart disease. On physical examination, blood pressure was 100/60 mmHg, respiratory rate 32x/minute, heart rate 102x/minute, oxygen saturation of 89% with room air. Jugular vein pressure R+4, cardiomegaly, ascites, hepatomegaly, splenomegaly, and pitting oedema was found. Chest radiography showed cardiomegaly. Echocardiography showed high probable pulmonal hypertension without structural anomaly. Pulmonary CT-angiography confirmed absence of pulmonary embolism, which was originally suspected considering patient's recent caesarean section. Right heart catheterization, the gold standard examination, was not performed in this reported case due to shortage of facility. The patient was diagnosed with PAH and right ventricular failure, treated with sildenafil, sodium beraprost, spironolactone, and furosemide. She recovered well and was discharged from hospital after ten days.
Conclusion: Diagnosis of PAH was made based on clinical manifestation, echocardiography, and pulmonary CT- angiography despite not performing right heart catheterization due to shortage of facility.
Keywords: Pulmonary Arterial Hypertension, right ventricular failure, echocardiography, pulmonary CT-angiography

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128. **Infant With Total Anomalous Pulmonary Venous Drainage: A Case Report**

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Introduction: Total anomalous pulmonary venous drainage (TAPVD) is a rare cyanotic anomaly accounts for 1% of all congenital heart disease[1]. Clinical symptoms depends on the size of Atrial Septal Defect (ASD), presence of pulmonary venous (PV) obstruction and types of defect[2]. The risk of death could reach 80% if not corrected immediately[2].

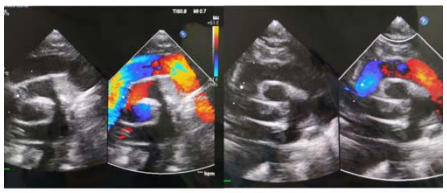
Case: A 2-months infant boy, 4.2 kg, with history of short breathness while milk-feeding. Birth history with cesarean section, presented aterm. HR 142bpm, RR 50-70x/min, SpO2 85%, split 2nd heart sounds with pulmonary component increases, ejection systolic murmur degrees 3/6 in upper left sternal border and mild cyanosis in toenails. CXR showed cardiomegaly without snowman appearance. Echocardiography showed left and right PV merge into confluent PV, leading to the innominate vein through the ascendence vein merge to SVC into the RA, the PFO R-L shunt appears, diagnosed supracardiac TAPVD; immediately repair surgery was succesfully performed.

Discussion: Infants with supracardiac TAPVD usually present with pneumonia, and even other congenital heart disease. Eventhough CXR showed without snowman appearence, confirm echocardiography is necessary with R-L shunt through PFO or ASD, PV lead to the RA (intracardiac) or to other veins (supracardiac, infracardiac). Supracardiac TAPVD medical therapy was given due to the present of heart failure. Definitive treatment with TAPVD surgical repair by returning PV to the LA[3].

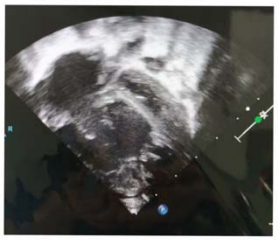
Conclusion

Supracardiac TAPVD have a high mortality rate if not diagnosed correctly and should be repaired at an early period of life.

Keyword *: Congenital heart disease, TAPVD*



Pict 1. Echocardiography: Supracardiac TAPVD



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129. **Late Onset Stemi With Left Main Total Occlusion: How The Patient Survived ?**

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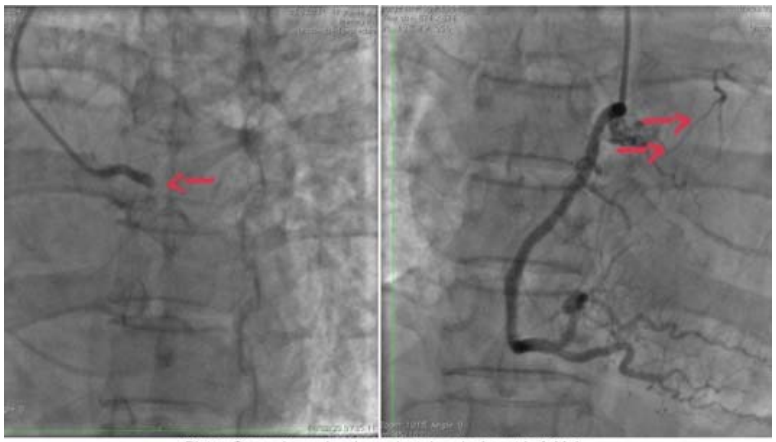
Background: Acute total occlusion of the Left Main (LM) coronary artery is a fatal event because of its association with a massive myocardial infarction, often accompanied by sudden cardiac death and/or cardiogenic shock.[1] This is a serious condition with high mortality rate. Rate of survival depends on existence of collateral circulation.[2]

Case: A 41-year-old male presented to the ER with severe chest pain radiating to the left arm and shortness of breath 14hr before admission. BP 162/75 mmHg, HR 114 bpm, RR 32x/min, SpO2 90%, moist crackles in half of both lung fields. ECG showed ST elevation in anterolateral leads and immediately brought to cathlab, corangiography showed total occlusion at LM, TIMI 0 flow. RCA was normal and providing minimal collateral to mid-distal area of LAD. Coronary intervention was performed by putting 1 DES in distal LM-proximal LAD. Flow to LCx spontaneously appeared after balloon dilation. Final CAG showed good TIMI 3 flow to distal LAD and TIMI 2-3 flow to distal LCx. Patient dealt with acute heart failure condition, eventually recovered, and discharged after 12 days of observation with LVEF of 40%. Case represents a late onset STEMI and acute LM occlusion which survived. Survival of patient with total occlusion of LM artery depends on the area that the RCA supplies and existence of collateral supply. It is widely assumed that collaterals will be formed overtime when an area was chronically had lack of blood supply. However, some new evidence showed collateral might preexist in acute condition. This might be the decisive factor for survival in our case. Inflammation during infarction promotes arteriogenesis and the abundance of monocytes accelerates the growth of pre formed collaterals[3]. Other possibility because preexisting ischemic condition (e.c subtotal occlusion or silent infarct) that induce collateral formation to the area.

Conclusion

Survival of an acute total LM occlusion depends on many factors, with collateral supplies playing a major one. In our case, preexisting/preformed collaterals might have saved patient's life.

Key Word : *Acute Total Occlusion, Left Main Coronary Artery, PCI*



Pict 1. Corangiography showed total occlusion at Left Main
Pict 2. RCA providing minimal collateral to Mid Distal area of LAD

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130. **Case Report: ST-Elevation Myocardial Infarction in Septic Shock Typhoid Fever Patients**

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Introduction: ST-segment elevation in surface ECG is a hallmark of myocardial infarction along with elevated cardiac biomarkers. ECG changes are frequent in septic shock patients although ST-segment elevations are rarely seen. Meanwhile elevating cardiac biomarker are commonly seen in septic shock patients. We present a case of 26 y.o. male with ST-segment elevation in Septic Shock due to Typhoid Fever.

Case Description: A 26-year-old male presented to the Emergency Room with frequent watery diarrhea, vomiting, a week history of fevers, and chills. He had no prior cardiac risk factor and previous illness. Physical examination revealed that he was delirium, diaphoretic, with impalpable blood pressure, heart rate of 58 bpm, respiration of 30, the temperature of 39,5^{o} C, and oxygen saturation 96%. Laboratory finding was notable for WBC count of 31.600/µL, creatinine of 3,43mg/dL, and Widal test of Salmonella Typhi O 1/320. Admission ECG show normal sinus rhythm and thoracic x-ray within normal limits. A working diagnosis of Septic Shock due to Typhoid Fever obtained. Aggressive fluid resuscitation was given and to reach targeted Mean Arterial Pressure (MAP) high dose vasopressors were up-titrated (norepinephrine and dopamine). During the first day of hospitalization, ECG changed into ST-segment elevation in inferior and lateral leads with an elevation of troponin T 1819ng/L. The patient was diagnosed with an acute MI and underwent coronary angiography which revealed completely normal coronary vasculature. Patients then treated with intravenous antibiotics for a few days, and the patient's vital signs improved gradually. The ST-segment elevation normalized on the follow-up ECG and troponin T normalize. The patient was discharged in stable condition and given an additional course of oral antibiotics.

Conclusion: High vasopressor in septic shock patients could lead to extreme coronary artery vasoconstriction resulting in ST-segment elevation. A cautious dose of vasopressor should be considered in the management of septic shock patients.

Keywords: ST-elevation, septic shock

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131. **Total Occlusion of Left Anterior Descending Coronary Artery with 'de Winter' Electrocardiogram Pattern : a Case Report**

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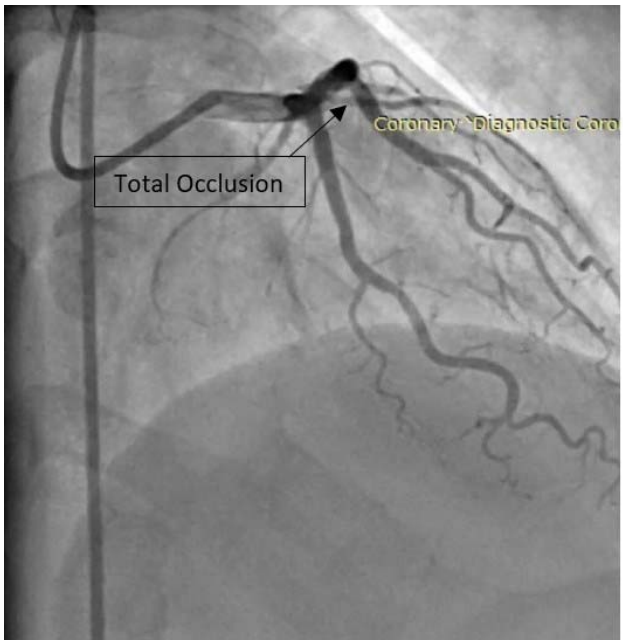
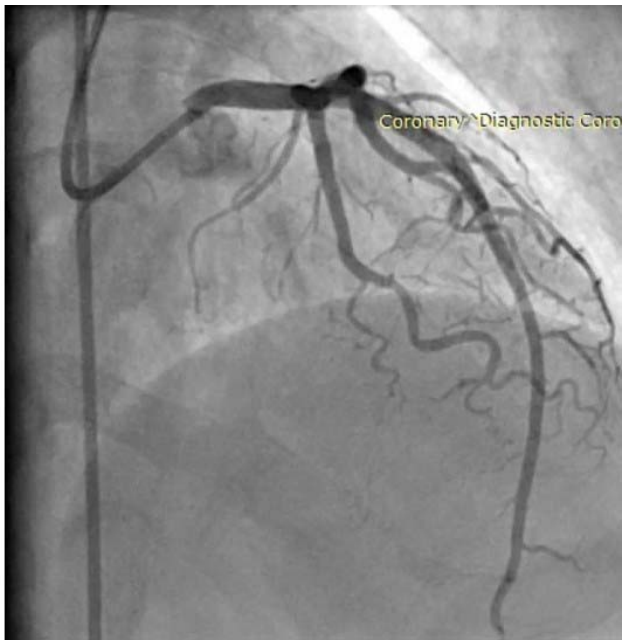
Background: The 'de Winter' electrocardiogram (ECG) pattern were defined as a sign of proximal left anterior descending artery (LAD) occlusion. The aim of this case report was to emphasize the importance of 'de Winter' ECG pattern since clinicians should recognize this immediately in emergency situations to provide appropriate treatment to acute myocardial infarction patient.
Case illustration and discussion: A 54-year old male presented with typical chest pain since 6 hours before admission, and ECG showed sinus rhythm of 60 bpm and >1 mm upsloping ST depression with symmetric, long and significant T-waves in the precordial leads characteristic of 'de Winter' ECG pattern. After admission, the ECG transformed into Q-waves and ST-segment elevation that emergency coronary angiography was performed. Total LAD occlusion was observed and stent were implanted to the culprit lesion. The echocardiogram performed revealed a depression in left ventricle function due to hypokinesia of the anterior left wall and apical segments of the remaining walls. After primary percutaneous coronary intervention (PCI) and drug treatment, the patient improved and was discharged. The extent of myocardial injury can be reduced with immediate invasive strategy,and the incidence of heart failure caused by coronary artery disease may be decreased.
Conclusions: The immediate recognition of 'de Winter' ECG pattern is essential for referring patients to urgent revascularization therapy and may have important prognostic implications.
Keywords: de Winter, acute anterior myocardial infarction, proximal LAD occlusion, primary PCI





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132. **LVH In Young Soldier, is it a Physiologic or a Pathologic Condition?: A Case Report in General Practitioner Perspective**

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Background: The differentiation between physiological left ventricular hypertrophy (LVH) secondary to exercise and hypertrophic cardiomyopathy (HCM) is a complex and increasingly common dilemma. Overdiagnosis of HCM can lead to the discontinuation patient career as a soldier, whereas underdiagnosis may increase risk of sudden cardiac death (SCD) during heavy physical activity.
Case Illustration: A 20 y.o. M Soldier, came to GP with shortness of breath while do moderate physical activity, he had no other symptoms. He does not have any cardiac risk factors and significant medical history. Vital sign was normal. He was consulted to the cardiologist for an echocardiography. The echocardiography shows mild concentric LVH. LVH is growth in left ventricle mass caused by increased cardiomyocyte size. LVH can be a physiological adaptation to strenuous physical exercise, known as "athlete's heart", or it can be a pathological condition, such as HCM. History of chest pain, palpitations, breathlessness, presyncope and syncope, with detection of family history of cardiomyopathy, SCD, syncope and unexplained heart failure are important to evaluated possibility of HCM. Also, reduction in wall thickness after deconditioning and type of training are helpful information to differentiate physiological LVH with HCM. ECG and echo can be used to asses abnormalities of HCM, despite physiological LVH can mimic morphologically with HCM. In this regard, cardiac MRI can be helpful.
Conclusion : GP's who screen the soldier, should be aware of the possibility of this threat. It is important to determine whether LVH is due to physiological condition or pathological condition which risk for SCD. Detailed anamnesis is important. Information from an ECG and echocardiography are essential initial investigations. Thus, several non-invasive strategies and input from cardiologist is needed to make the correct diagnosis.

Keywords: left ventricular hypertrophy, hypertrophic cardiomyopathy, athlete's heart, young soldier

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133. **Young Adult Hypertensive Emergency With Recurrent Hypokalemia**

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Background: Hypertension is commonly found in adulthoods and elderly, but not in adolescents and young adults. This case presents about hypertensive emergency in young adult with encephalopathy as the manifestation and history of recurrent hypokalemia.
Case illustration and discussion: A-man 20 years-old came with severe headache and vomitus. The physical examination was found blood pressure 220/100 and Cardiomegaly. ECG was found fulminant inverted T-wave which was suspected as hypokalemia. The potassium level was 1.8. The patient was treated with Spironolactone 2x100 mg, Telmisartan 1x80 mg and Captopril 3x50 mg, and KCL substitution, however the potassium level was not increase significantly. The subsequent hospitalization, the patient also came with emergency hypertension and hypokalemia. Primary hyperaldosteronism is one of etiologies of secondary hypertension with the prevalence about 4-10% in the population with hypertension. Primary aldosteronism is characterized by young age and hypokalemia which was also found in our patient. The patient was treated with ACE, ARB and Aldosterone inhibitors. Furthermore, aldosterone level was tested after an adequate therapy and the result was normal, probably because of the medications affect the aldosterone level. However, if aldosterone level was really normal, the other secondary hypertension causes with characteristics of young age and hypokalemia need to be considered. Moreover, an individual approach is also important to be considered. It was previously known, the combination of ACE, ARB and aldosterone inhibitors can be very harmful since they can increase the risk of kidney failure and hyperkalemia which increases the risk of patient death. However, this combination is useful for this case.
Conclusion: Further investigation is needed to know the exact cause of hypertension and recurrent hypokalemia in the patient. The harmful combination of ACE, ARB and Aldosterone inhibitors can be useful according to the individual approach.
Keywords: hypertensive emergency, young adult, recurrent hypokalemia, primary hyperaldosteronism

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134. **Acute Pulmonary Embolism with Right Heart Thrombus : How to Manage?**

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Background: Right heart thrombi (RiHT) are uncommon in patients presenting with acute pulmonary embolism and their presence indicates increased mortality as compared to pulmonary embolism alone**.** Due to lack of strong evidence, there is no clear consensus regarding the treatment of such cases.
Case Illustration and Discussion A 43-year-old male was referred to The Emergency Department with shortness of breath since 2 weeks ago and got worsened 3 days prior to admission. There was no sign of respiratory infection. Physical examination revealed cardiomegaly, distended jugular vein and tricuspid regurgitation. Electrocardiography showed sign of right ventricular (RV) hypertrophy with complete Right Bundle Branch Block. On the third day of treatment, the patient was unconscious and the shortness of breath got worsened. The hemodynamic profile of the patient was also found unstable (hypotensive, bradypnea, and tachycardia). On Echocardiography, we found 60/60 sign, multiple thrombi in right ventricle (largest 14 x12 mm) and a large thrombus in right atrium (37x26 mm). Urgent CTPA was not performed in this patient due to limited feasibility. Thus, reperfusion therapy using alteplase regimen was chosen. In the middle of the thrombolytic process, the patient suddenly got extreme pain in chest accompanied with haemoptysis. Serial echocardiography was performed and showed that mobile thrombus fragments through tricuspid valve. Unfortunately, due to rapid worsening of the condition, the patient passed away. Direct thrombolytic therapy in intermediate-risk pulmonary embolism (PE) is not recommended. Thrombolysis has risks of bleeding and the possibility of the clot dislodging and distally embolizing to the already compromised pulmonary circulation which could be fatal. Athappan et al. has suggested a mortality benefit using thrombolysis in PE with RiHT. Other studies have shown better outcomes with use of thrombolysis, specifically over anticoagulation alone or surgery
Conclusion In cases of PE complicated with an RiHT, immediate thrombolysis or embolectomy should be considered in the absence of contraindications in patients with a type A thrombus despite haemodynamic stability due to a high likelihood of embolisation and mortality. Type B thrombus has a more favourable outcome and directly thrombolysis is currently not recommended.

Keywords: PE, RiHT, Type A thrombus

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135. **Coronary Artery Disease With Non-obstructive Coronary Slow Flow**

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Background: Coronary artery disease (CAD) is a pathological process characterized by obstructive or non-obstructive atherosclerotic plaques. The coronary slow flow phenomenon (CSFP) characterized by delayed distal vessel opacification in the absence of significant epicardial coronary stenosis. The cause of slow coronary flow is Primary and Secondary like coronary artery ectasia, spasm, valvular heart disease, or connective tissue disorders.
Case Illustration and Discussion: A 54 years old woman was referred to our emergency department was diagnosed as Non ST-elevation at Anterior extensive wall Killip II confirmed by typical chest pain, and the patient has risk factors of hypertension and ex-smoker. ECG at onset 11 hours Old myocardial infraction inferior, Ischaemic anterior extensive, and ECG in RSHS onset 16 hours Old myocardial infraction inferior, Ischaemic anterior extensive, ST- T changes (+) with peak troponin I 0.17. Moreover, early invasive coronary angiography is reported as normal LCX and LAD. RCA has non-significant stenosis with a slow flow. Firstly slow coronary flow is pathogenic mechanisms are incompletely understood. CSFP has direct clinical implications, as it has been linked to clinical manifestations of myocardial ischemia, life-threatening arrhythmias, sudden cardiac death, and recurrent acute coronary syndromes. however, coronary vasculature like LAD most involved 50%-90%, RCA 28%-45% and LCX < 20%. Coronary angiograms in patients with CSFP are often referred to as "normal" or "mild non-obstructive disease. A study by alvarez et al. active or former smokers has a 66% risk. Patients with slow coronary flow can be caused by microthrombus, small vessel disease, or microvascular dysfunction.
Conclusion: Coronary slow-flow should be a diagnostic consideration in patients presenting with chest pain and noninvasive ischemic testing with normal or non-obstructive. Moreover, the specific standard for treatment has not been established.

K**eyword**s: Coronary Artery Disease, Coronary Slow Flow, Non-Obstructive Coronary

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136. **A study case : Acute Heart Failure with Arrhytmia in Rural Hospital**

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Introduction: There are approximately 23 million people with heart failure worldwide, and that estimate is expected to increase by roughly 772 000 by the year 2040. Patients on average have a 5-year mortality of 50% after the diagnosis is established, most commonly in the setting of hospitalization for acute heart failure (AHF). Acute heart failure (AHF) is a potentially imminently life-threatening condition. Accurate and timely diagnosis already from the emergency department (ED) is crucial for the early initiation of appropriate therapies, a strategy that has been shown to improve clinical outcomes.

Case Illustration and discussion: A 45-year-old woman, presented to ER Rupit Hospital complaining dypsnea and weak body 3-4 days before admission and worsening 4 hours before admission, patient said dypsnea occurs when she heavely activity. Patient also said that she has discomfort wiht her chest, and palpitate. Patient denied have a risk factors such as hypertension, diabetes melitus, cough, and fever. A physical examination have a tachicardia (126x/m), and dypsneu (42 x/m). cor : reguler, with murmur at apex cordi, distension of the jegular vein and have slightly pretibia oedema. On the ecg saw LAD axis, with saw tooth pattern.in II, III, AVF, V1 & V2. Patient was diagnosed Acute heart failure with susp Dilated Cardiomyopathy and Arrhytmia (Atrial Flutter). based on studies the goal of treatment of heart failure are to improve clinical symp toms and outcome with based on clinical patient laboratoric and haemodynamic findings. Patient moved to ICU for intensive monitoring, and gived ivfd rl, furosemid 20 mg IV, esomeprazole 40 mg IV ISDN 0,5 mg tab,clopidogrel 75 mg tab, aspilet 80 mg tablet, spironolakton 25 mg, candesartan 8 mg, atorvastatin 20 mg, and digoxin 0,25 mg. The next day, paitent still have dypsnea but get better, and add ksr 1x1. And then patient did not have dypsnea for next 2 days in ICU. The ECG change with LAD axis, HR 60 x/m, irregulery irreguler (A-Fib).and get discharge with cpg, aspilet, spironolakton, sukralfat, KSR, digoxin, candesartan, and laxadin. The primary causes of heart failure include diseases that damage the heart, such as coronary heart disease, high blood pressure, and diabetes. Other causes may include cardiomyopathy, congenital heart defects, heart valve disease, and arrhythmias.

Conclusion: We describe A 45-year-old woman diagnosed Acute heart failure with susp Dilated Cardiomyopathy and Arrhytmia. based on studies the goal of treatment of heart failure are to improve clinical symptoms and outcome but in rural hospital its still hard to monitoring and managed the underlying disease of AHF.

Keywords: AHF AND Cardiomyopathy AND Arrhytmia

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137. **A Type A Retrograde Aortic Dissection with Acute Coronary Syndrome Presentation: What's the Next Strategy?**

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Background: Aortic dissection (AD) is one of the major disasters affecting the aorta, which is characterized by disruption and separation of the aortic wall layer. However, AD's symptoms can be variable and may mimic acute coronary syndrome (ACS) presentations that diagnostic delays can occur. Early and precise diagnosis and appropriate treatment are needed in this condition.
Case llustration and Discussion:A 60-year-old male with a history of abrupt chest pain radiating to the upper abdomen. The Electrocardiography shows ST-elevation in inferior leads. However, the chest x-ray shows cardiomegaly and mediastinal widening, which increases AD suspicion. The echocardiography shows aortic regurgitation and intimal flap from the synotubular junction to the abdominal aorta. The cardiac computed tomography (CT) scan shows visible intimal flap in the ascending and descending aorta with entry tearing at descending aorta. The patient's blood pressure and heart rate were lowered to reach the target. The patient wasn't given antiplatelet and anticoagulant. The patient then referred to Harapan Kita Hospital and was planned for Bental method, total arch replacement, Elephant Trunk, and Thoracic Endovascular Aortic Repair (TEVAR) procedure.The diagnostic approach is fundamental in AD, as it could mimic ACS. The administration of anticoagulants and antiplatelets will cause AD to worsen. Therefore, an increase in AD suspicion is necessary, especially if the patient has chest pain and widening of the mediastinum. Accessible modalities such as echocardiography can be performed in an emergency condition. Cardiac CT can ultimately reveal the type of AD so that the management can be optimized.
Conclusion: Establishing the diagnosis of AD in patients with presentations mimicking to ACS may be challenging. Ignorance and lack of suspicion about AD may be harmful due to differences in management. Various modalities can be used to establish the diagnosis so that the patient management approach is appropriate.
Keywords: Acute Coronary Syndrome, Diagnostic Approach, **Type A Retrograde** Aortic Dissection.

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138. **Shark Fin Phenomenon: A Rare Case but A Deathful ECG**

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Background Shark fin phenomenon is an ECG presentation of ST segment elevation myocardial infarction with a unique wave composed by the QRS complex, the ST segment, and the T wave. It is not common to occur but is associated with very poor prognosis due to cardiogenic shock or cardiac arrest.
Case Illustration and Discussion A 67- year-old woman arrived at emergency department with chest pain since 5 hours before admission, felt heavy in the middle of chest, duration more than 20 minutes, diaphoresis, with nausea and vomiting. Risk factors of coronary artery disease of this patient are uncontrolled hypertension and menopause. From the ECG found sinus rhythm with morphology shark fin of ST elevation in lead II,III,aVF, V3-V6. Fibrinolytic was given to this patient. Worsened of hemodynamic state occurred 6 hours after fibrinolytic. Patient was unconsciousness and had no pulse with ECG on monitor: VT/VF, but even after we performed cardio pulmonary resuscitation, the patient was stated death.Several high-risk ECG patterns have been reported in association with acute myocardial ischemia due to critical stenosis or occlusion of a coronary artery which one of them is “Shark-fin phenomenon” as in presented case. It is a unique ECG phenomenon consisting of complexes formed by the blurring together of QRS and T-wave as a result of extreme ST-Deviation. This is an electrocardiographic sign of acute coronary occlusion and was associated with an increasing risk of ventricular fibrillation.
Conclusion The Shark Fin phenomenon is an uncommon ECG pattern, which reflects the presence of a large area of transmural myocardial ischemia and predicts cardiogenic shock accounting for high in hospital mortality. When present, this ECG pattern should prompt aggressive therapeutic strategic reperfusion with coronary intervention.
Keywords: ST segment elevation, shark fin phenomenon.

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139. **Management of Symptomatic Patient with Hypertrophic Obstructive Cardiomyopathy Despite Optimal Medical Therapy : A Case Report**

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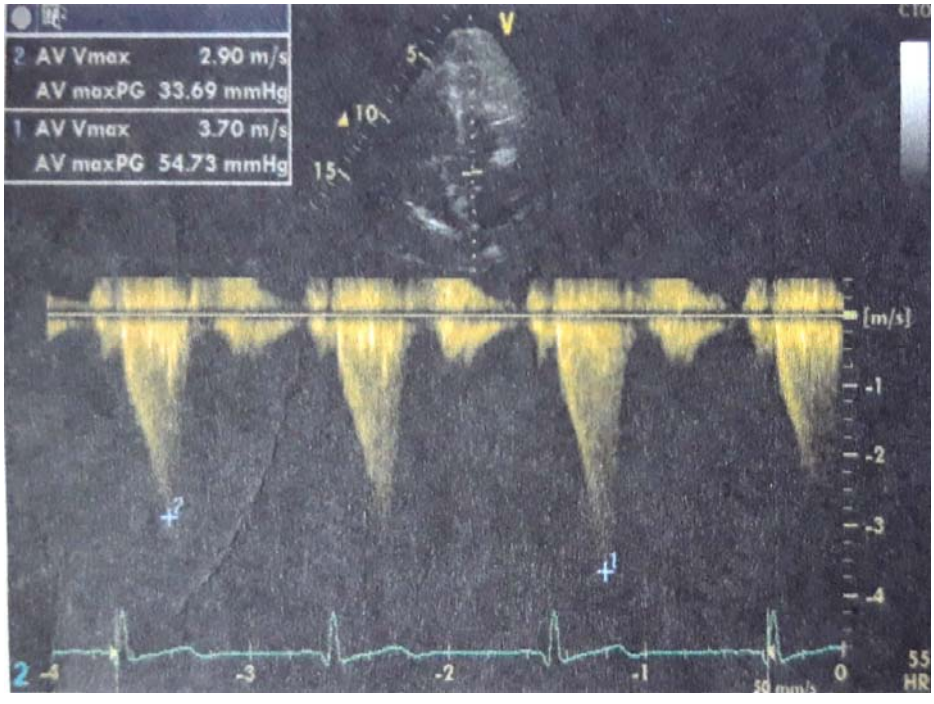
Background Hypertrophic cardiomyopathy (HCM) is defined by the presence of increased left ventricular (LV) wall thickness without any abnormal loading condition that accompanied by dynamic left ventricular outflow tract obstruction (LVOTO). The diagnosis of HCM rests on the detection of LV wall thickness ≥ 15mm and an instantaneous peak Doppler LVOT pressure gradient ≥ 50 mmHg. Symptomatic patient with LVOTO are treated with optimal medical therapy as the first line, but when it unresponsive, septal reduction therapy such as septal myectomy and septal alcohol ablation is necessary.
Case Illustration and Discussion A 53-year-old women presented with shortness of breath and systolic murmur at the sternal edge. Echocardiography revealed hypertrophy left ventricle (LV) with LV outflow tract (LVOT) gradient 107 mmHg. Patient diagnosed with HOCM and has been provided bisoprolol 5 mg bid. After 6 month evaluation, LVOT gradient was decreased to 19 mmHg. After a year, the patient is presented again with shortness of breath. Echocardiography evaluation showed LVOT gradient 54 mmHg with Systolic Anterior Motion (SAM), trivial MR, LVEF 92%. Bisoprolol was up-titrated to 10 mg bid and combined with diltiazem 100 mg but still unresponsive until 3 months evaluation. We referred patient for septal alcohol ablation (SAA). This procedure successfully reduce LVOT gradient to 26 mmHg.
Pharmacological therapy is administered to improve functional capacity and reduce symptoms. Invasive treatment such as SAA should be considered for symptomatic patient with LVOT gradient ≥ 50 mmHg in spite of maximally tolerated drug therapy.
Conclusion Symptomatic patient with LVOTO are initially treated with pharmacological therapy titrated to maximum tolerated dose. Invasive treatment such as septal alcohol ablation is necessary for patient who continued severe symptoms despite optimal medical therapy.
Keywords : Hypertrophic Obstructive Cardiomyopathy, LVOTO, septal alcohol ablation



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140. **Brugada Pattern Electrocardiography in *Plasmodium falciparum* Infection**

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Background: Brugada Syndrome (BrS) is an inherited disorder associated with sudden cardiac death. There are many factors that could trigger the BrS pattern.[1] Some literatures showed that malaria infection could affect the cardiovascular system and therefore caused this type of arrythmia.[2,3]
Case Ilustration: Non-obese Male, 44 y.o, came to ER with fever since the night before came to hospital. He felt headache and epigastric pain which did not radiated. No chest pain, shortness of breathing nor syncope. He quit smoking one year ago. No history of diabetes, hypertension and hyperlipidemia. No history of sudden death within family member. Electrolyte, C-Reactive Protein (CRP) and cardiac marker levels were normal. His blood smear result was plasmodium falciparum. ECG result showed brugada pattern. Patient was treated with only dihydroartemisinin piperaquine, antipyretic and proton pump inhibitor. Patient showed clinical improvement and the ECG also resolved after three days of therapy. Malaria infection could cause myocarditis, impaired left ventricle function and symptoms mimicking ACS.[4–6] Patient was not in fever during ECG test. Patient was not given primaquine. His HEART score was 1% (moderate risk). Brugada Syndrome are linked to inherited mutations in *SCN5A*.[7] The *SCN5A* mutations impair cardiac sodium channel gating more severely at higher temperatures, leading to the prolongation of PR and QRS intervals.[7] Another factor that possibly trigger arrhythmias was inflammation.[7,8] The study about association between CRP concentration and BrS symptoms suggests that inflammation might play a role in the pathophysiology of BrS arrhythmias.[8] All cytokines are elevated in malaria patients compared to controls.[9] Another report showed that BrS could be unmasked by malaria-induced fever.[3]
Conclusion: Malaria infection could be a trigger for Brugada pattern ECG in asymptomatic patient. Futher research needed to confirm the pathophysiology of Malaria induced BrS.

Keywords : Brugada Pattern, Malaria Falciparum

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141. **Treatment for Heart Failure and CKD due to Hypertension Emergency in Public Hospital Facilities: A Case-Report**

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Background: Heart failure (HF) is major global health burden with >38 million people diagnosed worldwide.(1) Studies done in South East Asia by INTER-CHF showed 1717 (67%) and 1169 (54%) patients with HF also had Hypertension and Chronic-Kidney Disease (CKD) respectively. This case report exhibits everyday challenges found in public hospital facilities in HF patient due to his socio-economics status and lifestyle.
Case Illustration: A 57 years old male with history of uncontrolled hypertension, currently active smoker (2-3 box/day for 33 years) brought to ER due to shortness of breath. GCS 15, BP 209/130, RR 28, HR 86, SpO2 100%, Temp 37oC, and BMI was normal. He had recurrent dyspnea on mild activities. Clinically, the patient showed diaphoresis, bilateral crackles and S3 gallop on auscultation, normal JVP, and oliguria with diuresis of 0,3cc/kg/hour. ECG showed sinus rhythm HR 82 Left Axis Deviation, and Left Ventricular Hypertrophy (LVH) with strain. Chest X-ray showed cardiomegaly with pulmonary oedema. Laboratory blood test came out with: Hb 8.6mg/dl; GFR 12ml/min/1.73; Ur/Cr 60.9/4.86; normal electrolyte level. Patient was diagnosed with Acute Decompensated Heart Failure (ADHF) Functional Class III, HT Emergency, Anemia and stage V CKD. Treatment such as isosorbide dinitrate 5mg/hours, nifedipin GITS 30mg/24 hours, telmisartan 80mg/24hours, and furosemide was given to patient. On the 4th day of treatment patient were stable, euvolemic and discharged with good result, and continues treatment for outpatient care.
Conclusion: We should be able to utilize any monitoring strategies to treat HF patients, such as clinical manifestation or others examinations to achieve good result, as managing HF in limited facilities has its own challenge.
Keywords: Heart failure, CKD, Hypertension, Fluid management

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142. **Narrow-Complex Ventricular Tachycardia: How to diagnose?**

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Introduction: Ventricular Tachycardia (VT) is classically characterised by a tachycardia with wide QRS complex duration (QRSd) >140 ms. In some cases, the QRSd is relatively narrow (120-140 ms) and often misinterpreted.[1] Various algorithms have been proposed to differentiated VT from SVT with aberrancy in wide-complex tachycardia form, while narrow-complex tachycardia usually considered as SVT. [2]
Case: A 46-year-old male presented to the ED with palpitations since 2 days ago. BP 82/61, HR 150bpm, RR 16/min, with normal PE. A 12-lead ECG showed tachycardia at the rate of 152 bpm which was regular with relatively narrow complexes (QRSd 118ms), left axis deviation, and several dissociated P waves in Lead II. He was given 6-12-12mg doses of adenosine intravenously and later I.V amiodarone 150 mg/10 minutes, without success. Laboratory examination showed increased Troponin I (0,233 ng/mL) and mild hypokalemia (3,27 mEq/L). Patient was admitted to intensive care with continuous IV Amiodarone. Corangiography showed normal coronaries. Tachycardia persists for another day with stable hemodynamic. Electrical cardioversion was performed twice, with 100-150 joule synchronised, without success. On the third day 1mg/kg lidocaine IV was given by bolus and maintenance. HR was converted to sinus 12hr later. Echocardiography showed LVEF of 55% and no valvular abnormalities. Tachyarrhytmia is divided based on QRSd into narrow-complex (QRSd< 120ms) and wide-complex (QRSd>120ms). The Brugada Criteria are commonly used to determine whether a wide complex tachycardia is from VT or SVT with aberrancy. Criteria include in this case are RS interval >100ms (figure 1), the presence of AV dissociation (figure 2) and RBBB morphology criteria (figure 3) showed the diagnosis leads to VT. ECG didn't show typical form of VT because it has relatively narrow complex QRS so its often misdiagnosed as SVT. AV dissociation and RBBB morphology with qR complex in V1 in relatively narrow QRSd (<140ms) are suggested to VT. These findings concludes this rhythm can be a VT, most likely originating near or from -HisPurkinje system, resulting in a narrow QRS complex.

Conclusion

Diagnosis of narrow-complexes VT is difficult due to the relatively narrow complexes (QRSd 110-140ms). AV dissociation is useful characteristic to diagnosis these tachyarrhytmia.

Keyword : *Ventricular Tachycardia (VT), Narrow-Complex Ventricular Tachycardia*

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143. **Obstacles regarding the Treatment ofAcute Coronary Syndrome During The Era of COVID-19: A Single Center Experience**

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Background: Since World Health Organization (WHO) declared COVID-19's pandemic, many obstacles were encountered by patients and hospitals especially concerning the delay in Acute Coronary Syndrome (ACS) treatment which leads to increase morbidity and mortality
Case Report : A 25-year-old man referred from Lampung General Hospital to Gatot Soebroro Army Central Hospital with typical chest pain, diaphoresis, nausea and vomit since 18 hours ago. He was hemodynamically stable and physical examination showed unremarkable result. Electrocardiogram (ECG) showed sinus rhythm with T-wave inversion in inferior leads and a deep symmetrical inversion in V2-4 leads Cardiac troponin I and CKMB were observed in normal range with non-reactive of rapid diagnostic test of SARS-CoV2 antibody. The assessment of very high risk Non ST- Elevation Acute Coronary Syndrome (NTE-ACS) was made. Hence, immediate treatment, such as oxygen, aspirin 160 mg, clopidogrel 300 mg, nitrate and anticoagulant, was given. Early invasive strategy was planned through highly cautious personal protection equipment (PPE). It demonstrated a subtotal occlusion on mid LAD with well-organized thrombus from mid to distal, thrombolysis in myocardial infarction(TIMI) Flow 0-1 We perforemed successful PCI with 1 DES inplantation at the LAD. Patient was clinically stable during discharge and remains neither symptoms nor the chest pain during 2 months of clinical follow up.
Conclusion: While the course of COVID-19 pandemic, the availability of screening test and adequate PPE are essential for patient selection and the treatment of choice. Thus, the delay for management could be minimized. However, thrombolytic therapy can be considered under this circumstance when PPCI is not possible.

KEYWORD : Acute coronary syndrome, COVID-19, pandemic, obstacle, treatments

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144. **How to Treat Acute STEMI Patient with Cerebro vascular Disease, Can We Still do the Thrombolytic?**

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Introduction : ST – elevation myocardial infaction (STEMI) caused by acute occlusion is an emergency condition. The primary therapy is restoration of full antegrade flow by either Primary PCI or thrombolytic theraphy (TT). The safety of IV Thrombolytic for STEMI treatment after recent cerebrovascular infraction is still a matter of debate. This case is describe the incidence of STEMI with history of third time Cerebrovascular infraction (CVD SI).

The case :A 64th y.o man presented with dyspnea and general weakness since 1 hour before hospitalization with history of CVD-SI third times which the last acute CVD-SI in 3 month ago. During triage, patient was unresponsive, the monitor ECG showed Ventricular Fibrilation with no pulse. DC Shock 200J were given, spontaneous circulation returned and treated with mechanical ventilation. General examination revealed GCS E4M6Vett, BP 140/90 on vascon 0.1mcg/kgBB/mintues, HR 90x/m. A 12 lead-ECG showed ST elevation with junctional, troponin T level were increased (65mg/dl) and diagnosed by inferior STEMI, CVD-SI and treted with cordarone 600mg/24h, loading Clopidogrel 300mg and ASA 160mg, Fondaparinux 2.5 mg/24h, atorvastatin 40mg/24h and plan transferred to have PCI. Because its to hard to find the hospital, we choose to give a TT with actilyse 15mg IV, and drip 50mg in 30 minutes, then drip 35mg in 60 minutes. During TT patient had spontaneous bleeding and the level of Hb is decreased. ECG during the thrombolytic showed sinus rhythm, ST-T changes and after thrombolytic patient transferred for PCI. The goal of TT is to life-saving and prevent mortality rate (33%). TT is an important reperfusion strategy in setting where primary PCI cannot be offered in a timely manner.

Conclution : In the presence of contraindication TTIt is important to do thrombolytic to against mortality and do life-saving since the patient had a lethal-arythmia.

Keyword : cerebral infraction, acute STEMI, contraindication, thrombolytic

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145. **Left Atrial Myxoma Presented with Chest Pain; A Case Report**

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Background: The incidence of primary cardiac tumour is 0.02% in autopsy, and 40-50% of them are myxoma. Patients commonly come with dyspnea. We report a patient with left atrial (LA) myxoma presenting with chest pain.
Case Illustration and Discussion: A 55-year-old male came to the emergency room with atypical chest pain, palpitation, and fatigue. Vital signs were stable with a slightly distended jugular vein. A grade 3/6, pansystolic murmur was heard at the cardiac apex. Electrocardiogram suggested atrial fibrillation with normal ventricular response and anterior wall ischemia. Troponin level was elevated. A non-ST elevated myocardial infarction (NSTEMI) diagnosis was established. Chest imaging showed cardiomegaly with lung oedema. Transthoracic echocardiography (TTE) revealed all chambers dilatation, reduced ejection fraction (45-50%), abnormal wall motion, and severe mitral regurgitation. A hyperechoic undulating mass (3,2x3,4 cm) attached to fossa ovalis was seen in the LA, protruding to left ventricular cavity during diastolic phase. The patient was diagnosed as NSTEMI, heart failure, and cardiac myxoma. He was referred for intervention. Myxoma often mimics multiple cardiovascular diseases, and a high index of suspicion is needed for diagnosis. Patients often come with dyspnea; however, our patient had atypical chest pain with a broad possible cause. The presence of embolic complication of myxoma, plaque rupture, and type 2 pulmonary hypertension might evoke the elevated troponin level and abnormal wall motion in TTE. Further investigation, e.g. transesophageal echocardiography and angiography might be more informative; however, TTE can be sufficient for initial diagnosis. Myxoma has about 96% ten-year survival rate; however, prompt resection is indicated as approximately 10% of the case result in complications, including death while waiting for surgery.
Conclusion: Cardiac myxoma is a rare cardiac tumour which often mimics other cardiac diseases. Early diagnosis is needed for allowing the patient to get immediate intervention.
Keywords
Cardiac tumour, myxoma

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146. **Pericardial Effusion Tuberculosis**

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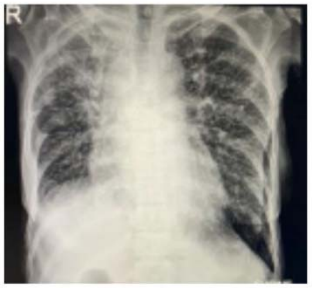
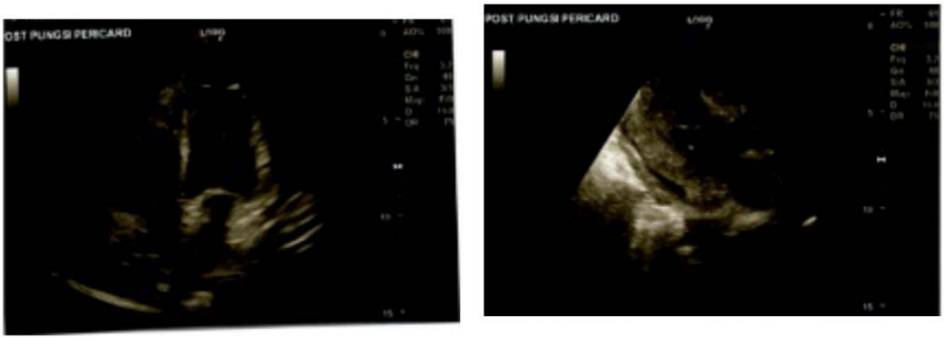
Background: Pericardial effusion tuberculosis is a condition where there is an increase fluid in pericardial sheath. This is called extrapulmonary tuberculosis and a rare case.
Case Illustration and Discussion:A 55 years old woman admitted to emergency department with a chief complaint worsening dyspnea and producing cough for 2 months. On initial assessment, she is unwell, tachychardic (heart rate 130/min), hypotensive (blood pressure 100/60 mm of Hg), and tachypnoeic (respiratory rate 30/min). On examination, patient heart sound were muffled and had ronchi in both lungs. An ECG showed low voltage complexes in all leads with sinus tachycardia. She brought chest x-ray from clinic that showed a progressive cardiomegaly within 2 months and conclusive for pulmonary tuberculosis. Bed-side echocardiography revealed massive pericardial effusion with LV EF 65%. Bed-side echo guided percutaneous pericardiocentesis was performed; a 220 mL serous pericardial fluid was aspirated and pericardial pigtail catheter was kept. Pericardial fluid was analyzed: Ziehl-Neelsen staining negative, Rivalta positive, total cell 550 ul with 99% MN and 1% PMN, total protein fluid 6.5 d/dL, total protein serum 6.9d/dL, LDH fluid 2265 U/L, LDH serum 691 U/L, glucose fluid 89 mg/dL.The patient was transferred to High Care Unit, had treatment with prednisone (20mg/day), and referred to Pulmonologist. Catheter was released after 4 days. Patient was discharged after 5 days with continuous anti-tuberculosis therapy and prednison.

Pericardial effusion due to tuberculosis usually spread hematogenously, lymphogenically, or directly from lung. Accumulation of fluid can result in increase pericardial pressure and severely affect cardiac output.
Conclusion: Pericardial effusion tuberculosis is a severe extrapulmonary tuberculosis caused by *Mycobacterium tuberculosis.* Diagnosis of pericardial effusion is confirmed by echocardiography. The treatment is by doing pericardiocentesis and continuing with anti-tuberculosis therapy.

Keyword Pericardial effusion, extrapulmonary tuberculosis, pericardiocentesis



Chest xray after pericardiocentesis



Echocardiography after pericardiocentesis

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147. **What Should We Do for Complete Heart Block in Primary Health Care?**

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Background. Complete Heart Block (CHB) is a loss of the regular function of the cardiac electroconductive pathways linking the sinoatrial node (SA node) and atrioventricular node (AV node). Without appropriate conduction through AV node, SA node cannot act to control the heart rate, and cardiac output can diminish secondary to loss of coordination of the atria and the ventricles. In our case report, we would like to present a case of CHB in the initial treatment before referred to placement a pacemaker.
Case Ilustration. A 61-year-old female with no history of hypertention was incidentally found to have dyspnea, high blood pressure, bradycardia (41 bpm), and CHB on electrocardiogram. However, The patient's blood pressure was under control after symptoms of dyspnea had improved without anti hypertention drugs. After patient in stable condition, Cardiologists recommend to referral for placement of a permanent pacemaker. Before the patient was referred, 0.5 mg of atropine intravenous was prescribed. Discution. CHB is a relatively uncommon arrhythmia that is nonetheless increasingly seen in elderly people of developed countries. Degenerative abnormalities in the AV node are the most frequent etiology of CHB in elderly patients. They not be able to compensate for a slow rate, leading to low cardiac output. Unless the patient has signs and symptoms of poor perfusion, observation is the only intervention. The initial management of bradycardic patients that are symptomatic usually begins with the use of intravenous atropine. Unfortunately atropine rarely effective in raising the heart rate in patients with CHB. Often patients in CHB will require pacing. If transcutaneous pacing is not successful, a transvenous pacemaker is necessary.
Conclution. Complete heart block may be a medical emergency, with severe signs and symptoms of poor perfusion, shock, and a serious risk of cardiac arrest. A patient with poor perfusion will require a pacemaker.

Keyword : complete heart block, dyspnea, pacemaker, bradycardia, atropine

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148. Severe Aortic Stenosis with Left Ventricular Hypertrophy and Left Ventricular Outflow Tract Obstruction, Two Obstacles in One Way

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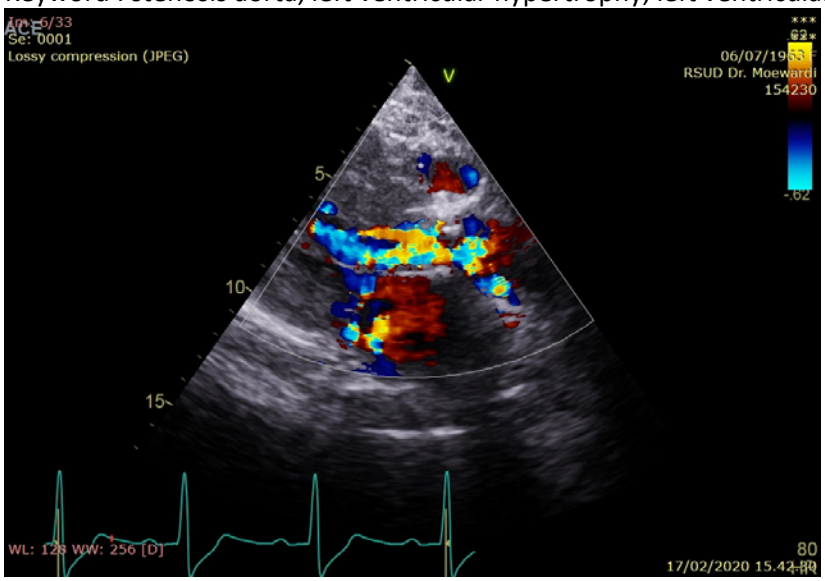
Background : Aortic stenosis is the third most common cardiovascular disease in developed countries and its prevalence increases with age. Left ventricular hypertrophy as compensation for aortic stenosis to maintain normal wall pressure and contraction. About 1% of cases of systolic anterior motion (SAM) can occur in the context of ventricular hypertrophy due to kinetic factors and can result in left ventricular outflow tract (LVOT) obstruction with a risk of up to 20% of sudden death.
Case illustration:A 56-year-old woman came to the hospital with fatigue and shortness of breath during activity. Examination of vital signs within normal limits. A physical examination of the heart revealed that the cardiac margin was widening to the caudolateral with 3/6 systolic ejection murmur at the upper right sternal border radiating to the carotid, 2/6 pansystolic murmur at the apex. ECG obtained sinus rhythm with a heart rate of 70 times per minute left ventricular hypertrophy according to sokolow lyon criteria. On echocardiography there is severe aortic stenosis with an ejection fraction of 81%, symmetrical left ventricular hypertrophy with SAM that causes LVOT obstruction and mild mitral regurgitation. Echocardiography is the standard in establishing the diagnosis of aortic stenosis and its consequences such as ventricular hypertrophy and SAM in this patient. This condition worsens the flow out of the left ventricle. LVOT obstruction causes abnormal subvalvular flow, so the valve area calculated by the continuity equation often results in a diagnosis with greater specificity than the true transvalvular gradient.
Conclusion: Severe aortic stenosis with left ventricular hypertrophy accompanied by LVOT obstruction is one of the challenges in echocardiographic examination. Assessment of the severity of aortic stenosis with planimetry is preferred.

Keyword : stenosis aorta, left ventricular hypertrophy, left ventricular outflow tract obstruction



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149. **Approach to Pulmonary Embolism in Acute Onset Dyspnea. A Case Report**

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Background Pulmonary embolism is a component of venous thromboembolism (VTE) that occurs when a blood clot (thrombus) dislodges and travels through the inferior vena cava and right-heart chambers finally reaching and obstruction a portion of the pulmonary vasculature. Pulmonary Embolism (PE), remains challenging to diagnose and often missed, due to symptoms, dyspnea, that may mimic large spectrum of diseases.
Case Illustration A 54-year-old woman were hospitalized for an acute onset of shortness of breath. She had no history of diseases. On general examination her BP 100/70 mmHg, pulse was 119/min, and RR 24 /min, she had normal breath and cardiac sound. Laboratory tests showed normal cardiac enzyme, troponin I was negative, and elevation of D-dimer. Chest X-ray revealed cardiomegaly. Electrocardiography showed sinus tachycardia with S1Q3T3 and Echocardiography showed dilated RA and RV with decreased RV function and moderate TR. Dyspnea is non-specific symptom to PE, and normal cardiac marker exclude the presence of ACS. Thus, simplified version of Well Score is used to predict the suspect PE, and the score was 2 (PE likely). The ECG change (S1Q3T3) was indicative of RV strain and the Echo showed decreased RV function. These were consistent with PE because acute PE may lead to RV pressure overload and dysfunction. With the combination of the symptoms and clinical findings, the patient then diagnosed with pulmonary embolism and received anticoagulant treatment (LMWH). The symptoms gradually improved. Her respiratory rate improved to normal, her pulse became normal and the ECG improved with normal sinus rhythm.
Conclusion Pulmonary embolism remains one of diagnosis to consider in acute onset of dyspnea, and it takes further meticulous examination to investigate.

Keywords : *pulmonary embolism, dyspnea*

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150. **Supraventricular Tachycardia, Rare Complication Of Leptospirosis: A Case Report**

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Background: Leptospirosis is a zoonosis disease caused by Leptospira species. It's endemic and become a major public health issue, especially in tropical regions, including Indonesia. Clinical manifestation varies from mild or asymptomatic to severe multiple organ failure. We report a case of severe leptospirosis which complicates to supraventricular tachycardia, unusual thing that seen in the disease
Case Illustration: A 44-year-old man came to the Universitas Sebelas Maret Hospital emergency room with complaints decrease of consciousness, fever, shortness of breath, vomiting, and yellowish discoloration of the body. Physical examination obtained conjunctival suffusion and tenderness in almost all abdominal regions and both calves. Serological testing found positive leptospira IgM. The patient developed SVT-AVNRT on 5th daycare. HsTroponin levels rose above the normal limit. After therapy, the patient's ECG converted to sinus. On the 13th daycare, the patient's hemodynamics deteriorated and died because of sepsis The patient, in this case, suffers Weil's disease, which has lung, kidney, liver, intestine, and also cardiac manifestation. A wide variety of ECG changes occurs in leptospirosis, but SVT-AVNRT has almost never been reported. The exact pathophysiology is still unclear, but there are several hypotheses, such as cytokine storms, direct damage from endotoxins, or electrolyte imbalances. Arrhythmias and other ECG changes have frequently been associated with severe disease and mortality.
Conclusion: SVT-AVNRT is a very rare complication in leptospirosis. Cardiac disturbance in leptospirosis patients is associated with poor outcomes and higher mortality rate. Therefore strict observation on clinical condition, ECG monitoring, and comprehensive care are needed.
Keywords: Leptospirosis, Weil's disease, Supraventricular Tachycardia, Case Report

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151. **Identification of Atrial Fibrillation in Patient with Chronic Obstructive Pulmonary Disease : A Case Report**

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Background : Chronic obstructive pulmonary disease (COPD) is a progressive life-threatening obstructive lung disease, characterized by long-term breathing problems and overall poor airflow. Aftrial fibrillation (AF) is often found in daily clinical practice and occurs in 14,3% patients with COPD. Identifying AF is very important because this arrhythmia can worsen the prognosis and increase mortality in patients with COPD.
Case illustration : A male patient, 58 years old, came to the emergency room with chief complaint of palpitations since several hours ago. Complaint accompanied by nausea and pain in the pit of the stomach, but no dyspnea. The patient is a heavy smoker and has a history of previous obstructive pulmonary disease. On physical examination was found blood pressure was 120/80 mmHg, heart rate 148x/m irregular, respiratory rate 24x/m, and SpO_2 95%. On auscultation found vesicular lungs sounds, no wheezing, irregular S_1S_2, and no murmurs. AF rapid ventricular response in electrocardiogram (ECG) and cardiomegaly in chest X-ray were found. Patient was given bisoprolol and amiodarone by oral as therapy AF is an irregular arrhythmia and requires a trigger that comes from re-entry of several focuses in the atrial. AF characterized by the absence of P waves and irregular ventricular rhythms due to recovering the atrioventricular node. Hypoxia is a key tenet of COPD that can lead to atrial remodeling and eventually to AF. Therapy for AF patients in acute conditions can be in the form of rate control and/or rhythm control.
Conclusion : This case shows the relationship between COPD and AF. COPD patient should be always examined by ECG.

Keyword : COPD, aftrial fibrillation, ECG

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152. **A Rare Case Report: *Escherichia coli* Endocarditis in Ruptured Sinus of Valsalva Complicated with Vasculitis and Generalized Lymphadenopathy**

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Background. Infective endocarditis (IE) has been known as the great imitator due to variable clinical manifestation, hence making diagnosis become challenging. Missed diagnosis could lead to inappropriate therapy. We present a rare case of blood culture negative infective endocarditis (BCNIE) in ruptured sinus of Valsalva due to *Escherichia coli* complicated with vasculitis and generalized lymphadenopathy.

Case illustration and discussion. A 36 year old male was known with ruptured Sinus of Valsalva presented with fever of unknown origin for 6 months, fatigue, and weight loss. Physical examination revealed continuous murmur at erb's point, petechiae rash and lymphadenopathy. Laboratory result was leukocytosis and elevated C-Reactive Protein but negative three consecutive blood culture. Multiple lymphadenopathy was detected from thorax and abdominal CT Scan. Positive Anti Proliferating Nuclear Antigen (PCNA) test led considering of an autoimmune as the etiology, but detection of multiple tiny vegetations at tricuspid valve with ruptured sinus of Valsalva from echocardiogram and cardiac CT led to diagnosis of IE. Despite empiric antibiotic treatment, the fever still persisted. Consideration for diagnostic and definitive treatment, surgery was performed to repair the sinus of Valsalva, vegetations evacuation with bioprosthetic tricuspid valve replacement which result in improvement of his condition. *Escherichia coli* yield in valve culture made the diagnosis of IE became definite. *Escherichia coli* is a rare cause of IE, only 0.51% of cases. Ruptured sinus of Valsalva is a rare cardiac anomaly, which could be congenital or acquired. Cutaneous vasculitis and lymphadenopathy are rare but potential manifestation of bacterial endocarditis.

Conclusion. *Escherichia coli* should be considered as a cause of BCNIE. IE complicated with vasculitis and lymphadenopathy could lead to diagnostic confusion. A thorough investigation will help clinician avoid delay or inappropriate treatment that could be detrimental for the patient.

Keywords. Cutaneous Vasculitis, *Escherichia coli*, Infective Endocarditis, Lymphadenopathy, Ruptured sinus of Valsalva

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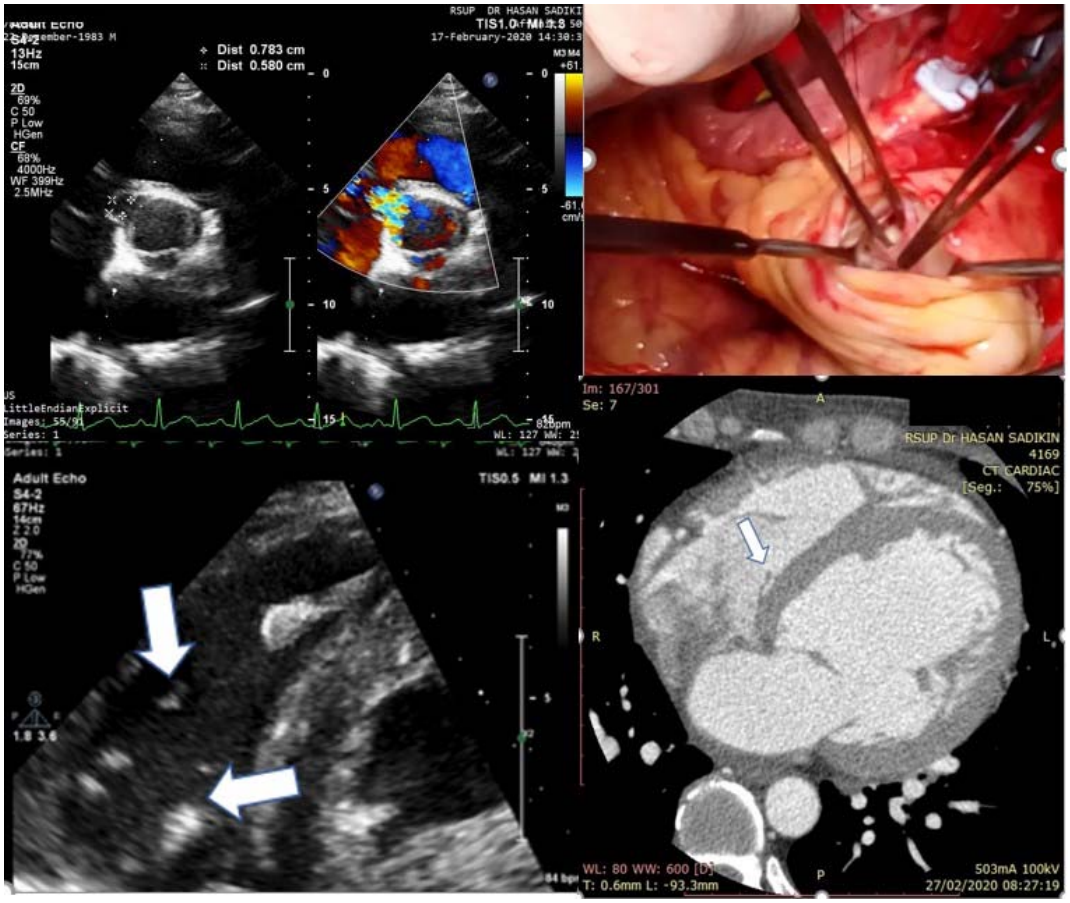

Figure 2. Ruptured sinus of Valsalva (RCC to RA) showed by echo (upper left) and intra operation (upper right) and multiple small vegetations attached to tricuspid valve by echo (lower left) and cardiac CT Scan (lower right) showed by arrow
RCC= Right Coronary Cusp; RA = Right Atrium

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153. **Case report : Aortorenal Hypertension due to Takayasu Arteritis in Children Treated with Angioplasty**

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Background Takayasu arteritis has been described worldwide with an incidence of up to 3.3 per million. Takayasu's arteritis (TA) is a chronic vasculitis that can affect aortarenal artery. Endovascular intervention in active phase is avoided due to risk for restenosis, but sometimes it be done for shorter hospitalization.
Case illustration A 15-year old girl was admitted to hospital due to malignant hypertension. Blood pressure was 120/80 mmHg in left leg and 140/85 in right leg but was 210/120 in the right arm and 220/130 in the left arm. Blood pressures were difficult to control and required triple antihypertensive agents, including nicardipine, furosemide and amlodipine. Both right and left dorsalis pedis pulses were impalpable. There was systolic murmur along the left sternal border until the left lower abdomen. ESR was 90 mm/1st h and CRP was 45 mg/l. Computed tomography (CT) scanning showed narrowing of the descendens aorta from pars thoracal until pars abdominal and left renal artery. We assessed Takayasu's arteritis and gave oral methylprednisolone. Balloon angioplasty was performed in next day and successfully treat the blood pressure from 220 mmHg dropped to 110 mmHg with pressure gradient before and after stenosis was 10 mmHg. This patient met the diagnostic criteria for TA set down in the European consensus statement on childhood vasculitides. PTA was done eventhough she has high CRP level, but we gave steroid concomitantly. At 6-month follow-up the patient was still asymptomatic and the blood pressure remained normal. The blood pressure in right arm was 110/80, left arm 100/85, right leg 105/80, left leg 100/80. Routine follow up is necessary for monitoring toward reocclusion.
Conclusion Takayasu's arteritis treated with angioplasty seems safe in active phase in this patient. However further follow up is need to confirm this situation

Keywords: Takayasu's arteritis, aortorenal hypertension, Ballon angioplasty

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154. **Warfarin Induced Skin Necrosis in Atrial Fibrillation due to Mitral Valve Insufficiency – A Rare Complication with High Morbidity and Mortality**

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Background Warfarin is a commonly prescribed medication of acute or long term setting for conditions such as atrial fibrillation, deep venous thrombosis, or pulmonary embolism. Skin necrosis from warfarin usage is a rare condition that occur at ratio of 1 : 10.000 patients with male to female ratio of 1:9.
Case illustration A 50 year old woman was admitted to hospital with acute decompensated heart failure along with refractory rapid ventrivular response of atrial fibrillation due to severe mitral valve insufficiency, and history of warfarin usage. Multiple ecchymosis at both arm and both hands. One weeks after admission, another purpura was formed at the back of the right hand and the little finger in the right hand underwent necrosis.Doppler ultrasonography was performed with the result of suggestive occlusion of *peripheral digiti V manus dextra* artery. INR was taken and the highest range is at 5.16. Warfarin was discontinued that day. Upon discontinuing of warfarin at 7 days, necrosis had began to decease, the little finger began to gain vascularisation, and the purpura were getting better. High dose (1 gram) of intravenous methylprednisolon injected for 3 days and subcutaneous enoxaparin was started and the patient was discharged 5 days later.
Discussion Warfarin inactivates vitamin K-dependent clotting factors and vitamin K-dependent proteins C and S. This may cause a paradoxical hypercoagulable milieu and cause microthrombi to develop under the skin. Skin necrosis occurs 5 days after initiating warfarin therapy without concomitant heparin in this patient. This patient was diagnosed later and given methylprednisolon injection for 3 days along with enoxaparin injection for 5 days. Occasionally vitamin K is used to reverse untoward warfarin effects and will be considerate if we encountered the same condition in the future.
Keywords : Warfarin, skin necrosis, acute, life threatening,

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155. A 39-Year-Old Female With Eclampsia and Heart Failure with Preserved Ejection Fraction (HFpEF): A Case Report

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Background HFpEF (Heart Failure with Preserved Ejection Fraction) known as left ventricular diastolic dysfunction with a normal ejection fraction. HFpEF mostly occurs in women. Hypertensive disease in pregnancy has a long-term effect on the cardiovascular system that potentially leads to heart failure.
Preeclampsia and HFpEF share the same pathogenic biomarker and metabolites that lead to endothelial dysfunction. It marked with normal ejection fraction and an increase of HF biomarker. NT-proBNP is considered as a biomarker for HF diagnostic with positive predictive value age-related cut-offs of 450 pg/ml for <50 years.
Case Illustration and Discussion A 39-year-old female admitted to the emergency department with tonic-clonic seizure, dyspnea, and loss of consciousness one day after giving birth to her fifth child. The patient reported having a headache and shortness of breath one day before admission. However, she had an unremarkable medical history prior to her complaint.
Presented with a blood pressure of 150/100 mmHg, heart rate of 128 beats/minute, respiratory rate of 30 breaths/minute, and lower extremities edema, there were no abnormalities found on the electrocardiogram. The echocardiogram showed an LV ejection fraction of 88,7%. However, the laboratory findings reported thrombocytopenia, albumin urine +2, and NT-proBNP level of 32.629 pg/ml. Chest X-Ray also revealed acute pulmonary edema and right pleural effusion.
A Normal ejection fraction with elevated NT-proBNP level is the sign of HFpEF, which is consistent with the patient's condition at the time of admission. Eclampsia highly linked to severe hypertensive disease in pregnancy that possibly leads to heart failure. This patient also presented with eclampsia with no prior medical problem.
Conclusion This patient clinically diagnosed with HFpEF and Eclampsia with no history of medical-related conditions during and before the pregnancy.
Keywords HFpEF, Heart Failure, Ejection Fraction, echocardiogram, NT-proBNP

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156. **Cardiac Memory in Supraventricular Tachycardia Patient: A Case Report**

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Background: Cardiac memory (CM) is an uncommonly recognized entity in which myocardial repolarization is altered after abnormal ventricular activation. Although CM considered as an adaptive reaction, its manifestations are often confused with pathological conditions.
Case Illustration and Discussion :A-54 years old female presented with palpitations. She was not on medications. There was no cardiac murmur and lungs were clear on physical examination. The electrocardiogram (ECG) revealed supraventricular tachycardia (SVT) which was reverted to sinus rhythm and T wave inversions (TWIs) in leads II, III, aVF, and V3-V6 after administration of intravenous digoxin. The patient was completely asymptomatic, neurological tests were unremarkable. Cardiac enzyme test revealed normal range. She was treated with bisoprolol. 3 days later the ECG revealed sinus rhythm with resolution of TWIs. CM is characterized by persistent but reversible T-wave changes induced by abnormal electrical activation pattern (artificial pacemakers, intermittent left bundle branch block, ventricular premature beats, ventricular pre-excitation or episode of tachycardia). The pathophysiology has been reported as altered expression of transient outward potassium current. It is an exclusion diagnosis when a patient presents with new altered T-waves after a period of abnormal electrical activation after we have ruled out other causes of repolarization changes. Since CM was first described, its similarity to ischemic often produces excessive cardiac testing. The combination of positive T in lead aVL, positive/isoelectric T in lead I, and precordial TWI>inferior TWI produces a CM signature that was sensitive and specific in differentiating pacing-induced TWI from ischemia. TWI can be found days or weeks after provoking stimulus.
Conclusion :CM should be considered in patients with abnormal electrical activation pattern after exclusion of other causes. It seems as a relatively benign pathophysiologic finding but may lead to unnecessary and invasive diagnostic investigation.

Keywords: cardiac memory, supraventricular tachycardia

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157. SUSTAINED MONOMORPHIC VENTRICULAR TACHYCARDIA ON ST-ELEVATION MYOCARDIAL INFARCTION

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Background: It has been well recognised that re-entrant through a stable circuit involving the infarct scar tissue caused by STEMI is the most-likely mechanism of sustained monomorphic ventricular tachycardia (SMVT). In acute myocardial ischaemia, with no previous scar, zones of slow conduction and block may create conditions for re-entrant.

Case Illustration and Discussion :A 57 years old man presented to emergency room with chest pain radiates to interscapular region and left arm 2 hours before. On physical examination, his GCS's was E4V5V6 and vital signs blood pressure 180/120 mmHg, heart rate 91 x/minute, respiration rate 28 x/m. The thorax examination was within normal limits. On ECG presented VT in all leads. Next, the patient was given O_2 3 lpm, aspirin 160 mg, clopidogrel 300 mg, ISDN 5 mg SL, and ketorolac 30 mg injection. The next 30 minutes ECG was performed and revealed STEMI in all precordial leads. Patient was given streptokinase 1,500,000 IU infusions and amiodarone 900 mg infusion within 12 hours for the next management. This patients are likely to have large infarct areas and a very large acute ischaemic zone may create the conditions for a transiently stable re-entrant circuit capable of sustaining a monomorphic re-entrant tachycardia.

Conclusion : The mechanism of VT is re-entrant and involves the infarct scar and in particular the border zone or other areas of the scar with deranged conduction. As a result, the VT in this case is typically monomorphic.

Keywords :VT; re-entrant tachycardia; STEMI.

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158. Abnormal Cardiac Rhythms Following Myocardial Infarction Event

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Introduction: Acute myocardial infarction is one of the leading causes of death in the developed world. In America, cardiac event occur every 40 seconds. In 2019, coronary events are expected to occur in about 1,055,000 individuals, including 720,000 new and 335,000 recurrent coronary events. Myocardial infarction results in irreversible damage to the heart muscle due to a lack of oxygen. Electrical conduction abnormalities are well-recognized complications of acute myocardial infarction (MI).

Case Description: A 65-year-old male patient presented with chest pain and abdominal discomfort 12 hours prior admission. Electrocardiography exam showed non-ST segment elevation on inferior leads, and was diagnosed as Unstable Angina Pectoris dd/ NSTEMI + Junctional Bradycardia. Persistent chest pain was observed during hospital stay, and serial electrocardiography showed progression to inferior STEMI. Due to insurance policy, the patient receiving anti thrombotic therapy and was scheduled for PCI later on. Electrical conduction abnormalities are well-recognized complications of acute myocardial infarction (MI). They may be caused by either autonomic imbalance or ischemia/infarction involving the conduction system. Junctional rhythm is typical among individuals who have a sinus node dysfunction (SND). It is important to differentiate which arrhythmias are transient and which are likely to progress to irreversible and symptomatic high-degree atrioventricular (AV) block.

Conclusion: Cardiac arrhythmias are quite common in the setting of acute myocardial infarction. With the advent of thrombolytic therapy, it was found that rhythm disturbances may actually be a marker of successful reperfusion.

Keywords: Cardiac Rhythms, Myocardial Infarct, Junctional rhythm

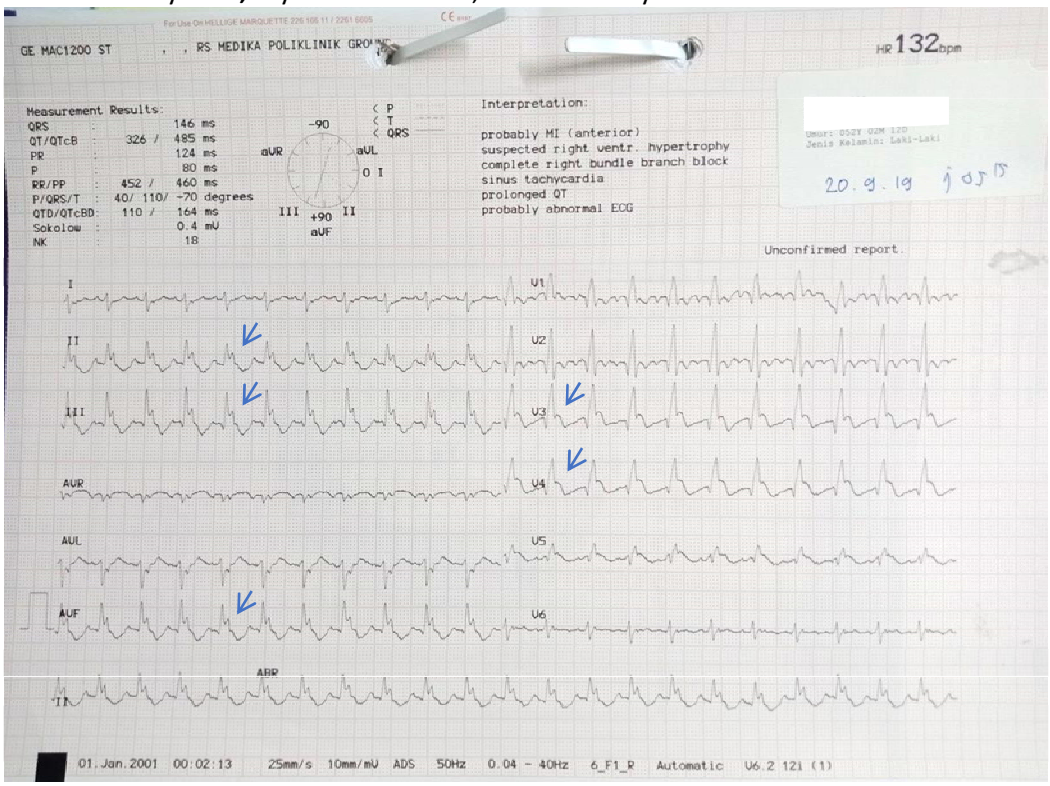

Figure 1 Electrocardiography exam

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159. **Flecainide Challenge Test:**
Unmasking Intermittent Type 1 Brugada Pattern that was Induced by Fever

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Background: Brugada syndrome (BrS) includes a group of patients with a typical pattern of ST segment elevation in right precordial leads who are at risk of sudden cardiac death. Flecainide challenge test, intravenously or orally, is one provocative option to unmask Brugada ECG pattern. The following case describes oral flecainide challenge test in patient with intermittent Brugada ECG pattern.
Case Presentation: A 38-year-old man presented with history of incidental finding of type 1 Brugada ECG pattern during fever (Figure 1), ECG was normalized later after temperature stepped down. He has 3-day history of fever, and denied any history of chest pain, dyspnea, palpitation, syncope nor presyncope. Flecainide challenge test was performed with 400 mg of flecainide orally, and successfully unmasks type 1 Brugada ECG pattern at high leads (figure 2, panel A and B). Moreover no arrhythmia was provoked during test. Fever ability to unmask Brugada pattern and trigger ventricular arrhythmias in BrS are well known. The mechanisms responsible for the electrocardiographic actions of flecainide are thought to be its ability to block sodium channels. The result is an all or nothing repolarization of the right ventricular action potential and marked abbreviation of the epicardial action potential duration. It manifests as an ST-segment elevation in the right precordial leads of the ECG. A recent study showed 100% reproducibility for this test.
Conclusion: Fever can induce intermittent Brugada ECG pattern, and oral flecainide challenge test is useful and safe to unmask type 1 Brugada ECG pattern especially where ajmaline is not available.
Keywords: Brugada Syndrome, Fever, Flecainide, Provocative test.

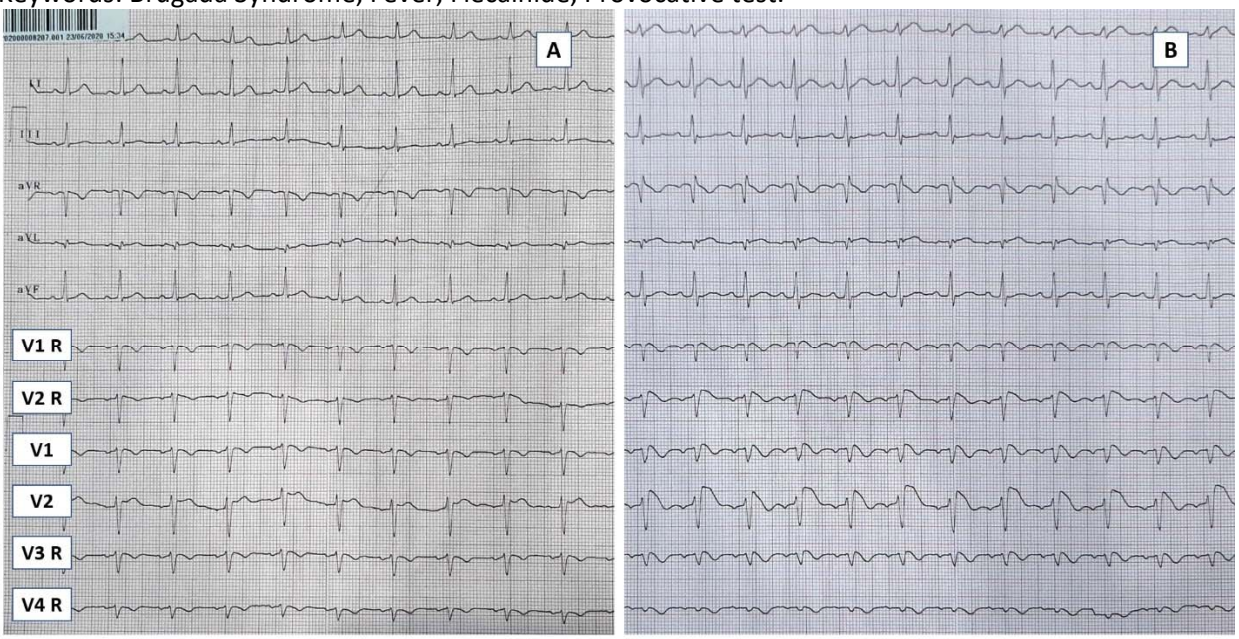

Figure 2. A. Baseline ECG, **B**. ECG obtained 5 hours after ingestion 400 mg flecainide

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160. A Case report of Cardiac Amyloidosis Which Misdiagnosed as Rheumatic Heart Disease

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Background: Amyloidosis is a rare group of disease caused by extracellular deposition of misfolded products of a variety of precursor protein. May manifest as primary, secondary, familial or senile amyloidosis and disrupt multiple organs resulting in variety of clinical manifestation. Cardiac involvement, an infiltrative cardiomyopathy, is a marker of poor prognosis. Every layer of the heart can affected by the amyloid deposition and endocardial involvement may result in atrioventricular valve dysfunction.

Case Illustration: :A 15-year-old man without the history of any diseases was admitted to our emergency room in December 2015 with symptom of progressive dyspnea along with palpitations. During his childhood, the patient has a history of foamy and reddish urine, swelling of the face and eyelids but no history of coughing, hoarseness and sore throat before. He also had the symptoms of peripheral neuropathy, postural hypotension, chest pain and dyspnea on effort. He did not get any treatment for all symptoms he experienced. He has no symptoms of fainting, cyanosis, weight loss, pain and difficulty in urinating, lumps or rashes on the skin, joint pain, movement disorders, convulsions and no familial history with the same symptom. On physical examination findings, he had irregularity of I/II heart sounds and diastolic murmur at the apex of the heart. ECG showed atrial fibrillation (AF) and based on chest X-ray we found cardiomegaly with interstitial pulmonary edema. Echocardiography revealed a picture of severe mitral regurgitation (MR). After thorough examinations and discussions, the patient was planned for invasive valve repair. But during observation the patient always had symptoms of peripheral neuropathy. The patient is advised to do an cardiac MRI (CMRI) and it showed a normal LV volume with LV ejection fraction (LVEF) 68%, normal RV volume with RV ejection fraction (RVEF) 56%, biatrial enlargement, global normo-kinetic, normal LV mass with normal wall thickness, mild MR, myocardial edema on anterior basal-apex and basal-mid lateral, no ischemic scar, diffuse LA and RA late enhancement, representation of restrictive cardiomyopathy due to systemic disease, which lead us to conclude that he had an infiltrative cardiomyopathy with suspected amyloidosis so that the patient fails to undergo an invasive procedure. A case report of amyloidosis which misdiagnosed as rheumatic heart disease. Patient was diagnosed with RHD base on history and clinical findings of suspected post streptococcal glomerulonephritis and apical diastolic murmur. But after CMRI was performed, the diagnosis infiltrative cardiomyopathy with suspected amyloidosis is established.

Conclusion:Amyloidosis remains a rare disease, and often misdiagnosed. But with suspicion of symptoms, baseline test of organ function, and confirmation test amyloidosis could be ensure.

Keywords:
Amyloidosis, Cardiac Amyloidosis, Rheumatic Heart Disease.

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161. **When Ventricular Tachycardia Storm Strikes**

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Background: Ventricular tachycardia that occurs three or more within 24 hours after termination of another VT can be categorized as VT storm. Ventricular tachycardia storm can be caused by myocardial infarction, structural heart disease or arrythmia syndrome. Both pharmacological or electrical cardioversion can be used to terminate VT.
Case Description: A 43 -year-old female patient came to the ER with a chief complaint of palpitation. There was no chest pain nor shortness of breath. There was no history of syncope and hypertension. She was conscious and her BP was 100/60. The ECG showed a ventricular tachycardia with a HR of 208x/m. Her laboratory results were within normal limits. She was given amiodarone loading dose followed by 1 mg/minute infusion. After 3 to 6 hours of observation, the ECG resolved to normal sinus rhythm (NSR) with frequent PVCs and later to NSR with slightly QT prolongation. However, after 12 more hours of observation, the ECG was return to VT, then the same regimen amiodarone was given, later on the ECG showed a VT once more, she was then referred to advance hospital for further evaluation. In managing stable VT, the use of pharmacological approach is preferred since it is widely available and doesn't required sedation. In this scenario, amiodarone was the drug chosen to terminate the VT. In this case, recurrent VT renders the use of amiodarone, therefore the patient must be monitored for sign of hypotension. Even though the VT is converted to sinus, fails in finding the etiology can lead to recurrent VT.
Conclusion: The use of pharmacology approach can be useful to terminate VT exclusively for stable patient. After the VT was terminated, the next step should be finding the etiology to stop the VT reappearance. Unfortunately, it is difficult to find the etiology due to limited resources in the rural hospital.

Keywords : Ventricular Tachycardia, Recurrent Ventricular Tachycardia, Ventricular Tachycardia Storm

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162. **Pre-excited Atrial Fibrillation and Amiodarone. What Should We Learn? A Case Report**

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Background : Wolff-Parkinson-White (WPW) syndrome is rare disease with the incidence ranging 0.1-3 cases per 1000 population. The most feared manifestation of WPW syndrome is pre-excited atrial fibrillation (AF) which might degenerates to life-threatening arrhythmia.
Case Illustration And Discussion:A 59-years-old man came to emergency department with chief complaints of palpitation accompanied by chest pain with onset of 2 hours prior to admission. He was conscious at admission with stable vital signs, except an irregular 188 bpm heart rate. Physical examination showed no signs of heart failure. The first 12-lead ECG showed irregular wide complex tachyarrhythmia.

Amiodarone infusion was given by general practitioners. Shortly, the patient experienced ventricular fibrillation. Immediate cardio-pulmonary resuscitation was done. ROSC was achieved. The second ECG showed sinus rhythm with shortened PR interval and delta wave in all leads suggesting overt accessory pathways (APs) in WPW syndrome.

The very first step to manage patient with arrhythmia is recognition. The general practitioners failed to identify that it was a pre-excited AF, rather they managed the patient as if it was ventricular tachycardia or SVT with abberancy. It is often quite difficult to identify pre-excited ECG pattern during tachyarrhythmia episode. In hemodinamically stable patient, drugs targeting APs such as ibutilide, procainamide, propafenone or flecainide should be considered. In contrast, AV node-modulating agents such as adenosine, verapamil, diltiazem, beta-blockers, digoxin and amiodarone are contraindicated. Several studies reported pre-excited AF in WPW syndrome degenerated into VF following amiodarone administration.

Synchronized cardioversion should be performed in hemodinamically unstable patient. Patient surviving cardiac arrest event with manifested pre-excitation syndrome requires catheter ablation as treatment of choice.
Conclusion Early recognition and appropriate treatment is needed to prevent death in WPW syndrome patients.

Keyword: pre-excited atrial fibrillation, WPW syndrome, amiodarone

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163. **Grown-Up Congenital Heart Disease: How To Diagnose And Promptly Treatment**

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Background : The population of GUCH will reach 20.000 in coming years, in developing country, and nearing 1 million in North America. Approximately 60% cases congenital heart disease are diagnosed in infant aged <1 year, 30% in children, and 10% in adults. To be able to diagnose of GUCH is still challenging, because most of them are asymptomatic.

Case Illustration: A 16 year-old female, presented to RSUD Kota Bekasi with a week history of dyspnea that occurs mainly when mild activity and fatigue. On examination, blood pressure was 111/74 mmHg, heart rate was 90 bpm, regular, and pansystolic murmur 4/6 that heard on the left edge of the sternal with normal heart sound. In echocardiography examination we found End Diastolic Dimention (EDD) 40, End Systolic Dimention (ESD) 22, Ejection Fraction 70%, and a Ventricular Septal Defect (VSD) Subaortic with the size 3mm (Left to Right Shunt). Therefore, the diagnosis of VSD Subaortic was confirmed. The patients undergo procedures Transchateter closure Of VSD by cardiologist, in 3-months later. After the procedures, no complaints were felt by patients, normal physical examination, and no abnormality in ECG. Grown-up Congenital Heart Disease is congenital heart disease found in adolescence or adulthood. Some congenital heart defects are severe that immediate medical attention are needed, while others are mild with minimal consequences or asymptomatic. Due to increasing age and shunts, variable symptoms and complications such as heart failure, pulmonal hypertension, and Eisenmenger Syndrome may develop. Echocardiography remains the first-line investigation and continues to evolve, with improved functional assessment using three-dimensional echocardiography, Doppler tissue imaging and its derivatives, contrast echocardiography, and perfusion imaging. It allows to asses both morphology and functional of the heart and the abnormal lesions that arise.

Conclusion: Grown-Up Congenital Heart disease (GUCH) patients are unique and challenges especially at developing country. In the diagnosis requires a careful medical history taking, comprehensive physical examination, and convenient supporting examination that Echocardiography is the gold standard for imaging.

Keywords

Grown-Up Congenital Heart Disease, Echocardiography, Transcatheter Closure

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164. **Total Occlusion of Coronary Artery Without ST Segment Elevation A Case Series of 'de Winter' Electrocardiogram Pattern**

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Background:A 'STEMI equivalent' electrocardiogram (ECG) pattern reflects an acute thrombotic occlusion of a large coronary artery without ST-segment elevation, that must be recognized and treated with emergent reperfusion therapy (percutaneous coronary intervention). De Winter syndrome is a special ECG pattern indicating acute occlusion of the proximal segment of LAD and a primary percutaneous coronary intervention (PCI) should be performed as early as possible.
Case illustration and discussion: We present two patients who were admitted to emergency department with symptoms of chest pain. Their ECGs revealed de-Winter T waves and then coronary angiography was performed. Total occlusion in the proximal left anterior descending (LAD) coronary artery was observed in both patients, and stents were implanted to the culprit lesion.
In this ECG's patient, there is an up-sloping ST segment depression (STD, >1 mm) starting from the J-point, with symmetrical, tall and significant T-waves in the precordial leads. This ECG pattern indicates a left anterior descending artery (LAD) obstruction. The 'de Winter' ECG pattern is not mentioned in the ESC guidelines, but it is important to bear in mind this rare ECG pattern that needs, from most expert opinions, to be treated, as other STEMI equivalent, with prompt revascularization therapy.
Conclusion: The 'de Winter' ECG pattern, as other 'STEMI equivalent', must be recognized promptly and treated as soon as possible with emergent reperfusion by percutaneous coronary intervention.
Keywords: De Winter, STEMI equivalent, proximal LAD occlusion, ST segment depression.

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165. **End Stage Renal Disease with Aneurysmatic and Critical Stenosis of Coronary Artery: Myocardial Revascularization Strategy**

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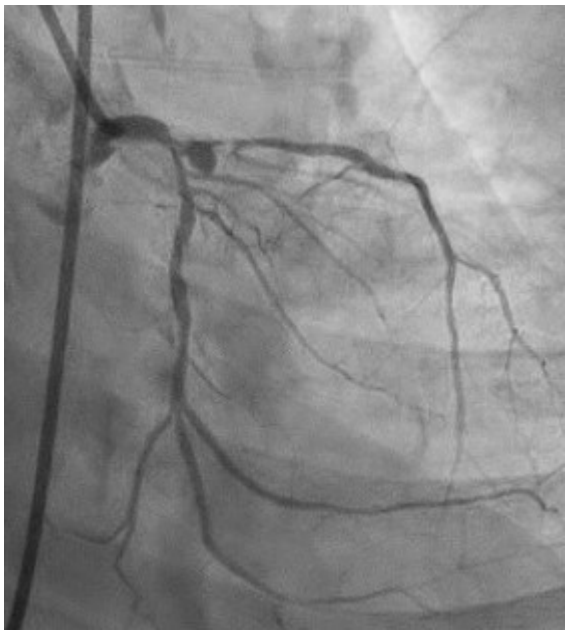
Background: Cardiovascular disease is a major concern for patients with end-stage renal disease (ESRD), especially those on hemodialysis because of presentation with atypical symptoms. Several studies showed worsened clinical outcomes after coronary revascularization, which were dependent on the severity of renal dysfunction. In this case, coronary revascularization was performed to an ESRD patient with aneurysmatic and critical stenosis of coronary artery.
Case illustration and Discussion: A 52-year-old woman was admitted to hospital with chief complaint of chest pain in the last 3 months. Patient has history of chronic kidney disease (CKD) on regular dialysis 2 times/week. Diagnostic coronary angiography (DCA) was performed to the patient and the result was Double Vessel Disease + Left Main Disease with aneurysmatic artery at proximal of left anterior descending (LAD) coronary artery and critical stenosis at the distal of aneurysmatic coronary artery. Critical stenosis which was found after an aneurismatic artery was a very difficult position for percutaneous coronary intervention (PCI) prossedure to perform. The SYNTAX trial on patients with CKD confirms the principles for allocating patients to PCI or CABG. SYTAX score of the patient was 49 and using society of thoracic surgery (STS) risk score, the risk of Mortality was 1.786%, and morbidity or mortality risk was 12.058%. Coronary artery bypass graft (CABG) surgery procedure was performed as myocardial revascularization strategy for the patient.
Conclusion: Myocardial revascularization in the elective setting is appropriate when the expected benefits, in terms of survival or health outcomes (symptoms, functional status, and/or quality of life), exceed the expected negative consequences of the procedure.
Keywords: end-stage renal disease, aneurismatic coronary artey, myocardial revascularization, SYNTAX score



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166. **Going to the Right Direction in Systemic Sclerosis**

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Background: Systemic sclerosis (SSc) is rare chronic autoimmune disorder characterized by the presence of fibrosis of the skin and visceral organs.[1] The most cause of death in Ssc is cardiopulmonary dysfunction, including pulmonary arterial hypertension with 3-year survival rate 52%.[2]
Case Illustration: A 35-year-old woman, was presented to emergency department with dyspnea, orthopnea and bilateral leg swelling since one month before. She had hardened skin with hypopigmentation lesions since two years. She was diagnosed with Ssc one month before and under steroid treatment. Vital sign was unremarkable with blood pressure 100/60mmHg, heart rate 98 bpm, respiratory rate 24 per minute, oxygen saturation 97%. Physical examination was notable for bilateral pitting edema, hardened skin, discrete hypopigmented lesions, sclerodactyly, elevated jugular venous pressure and pansystolic murmur at lower left sternal border. Chest x-ray revealed cardiomegaly with lung fibrosis. Electrocardiography showed right ventricular hypertrophy with bigeminy premature ventricular complexes (PVCs). Echocardiography revealed severe dilated right atrium and right ventricle, right ventricular hypertrophy, smallish D-shaped left ventricle (LV), paradoxical interventricular septal movement, severe tricuspid regurgitation with TVG 81mmHg, minimal pericardial effusion and reduced right ventricular systolic function despite good LV function. Serology showed positive anti Scl-70. The patient was treated with intravenous furosemide, spironolactone, digoxin, and dobutamine support but eventually had worsening right heart failure with low cardiac output. She died after 7 days of hospitalization. The indirect effect of SSc was pulmonary hypertension. Systemic sclerosis mediates fibroproliferation of small vessels in pulmonary vasculature, thus increases pulmonary resistance. This leads to increase cardiac preload and overtime progress to right ventricle failure. Direct cardiac effects in Ssc which involve the conduction system resulted in bigeminy PVCs and pericardial effusion due to inflammation in pericardium.
Conclusion: Cardiac involvement in SSc generally signifies a poor outcome, especially if there is pulmonary hypertension and right heart failure.

Keywords Systemic Sclerosis, Pulmonary Hypertension, Right Heart Failure

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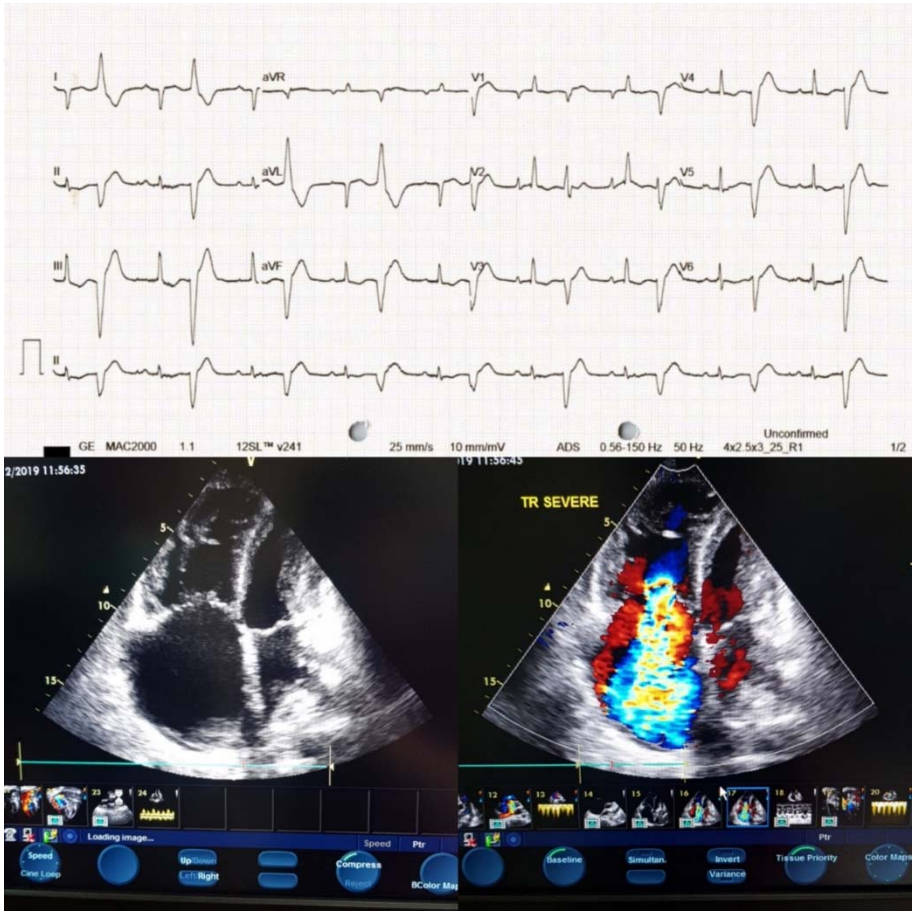

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167. **A recovered case of COVID-19 myocarditis mimicking myocardial infarction: a case report**

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Introduction: Coronavirus disease-2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The outbreak of COVID-19 appeared in China in December 2019 and, since then, has spread worldwide at a rapid pace and has been declared a global pandemic by the World Health Organization as of 11 March 2020. The first COVID-19 cases in Indonesia was confirmed at 2 March, with the numbers continue to rise over 100,000 as of end of July. The infectious disease manifests mainly with respiratory symptoms such as cough and fever and commonly causes pneumonia. Several cardiovascular complications of COVID-19 have been described, with cases of myocarditis have frequently been reported. We present a case of probable myocarditis secondary to COVID-19.
Case Illustration: A 57-year-old female was referred to our hospital with acute short of breath that had been worsening since 2 days before. Atypical chest pain was presented. She was diaphoretic and starting to lose consciousness just before referred. Her chest X-ray showed infiltrated lower right lung with pleural effusion. Initial ECG in our ER showed unstable VT that converted to sinus tachycardia with the use of amiodarone. She was then put in the ICU. In the early days of hospitalization, we thought myocardial infarction was the main culprit since there was a high level of troponin (Trop I = 5 ng/mL). As no clear clinical improvement on the third day of ICU, nasopharyngeal swab was done at her with positive COVID-19 result. Echocardiography was done on the 6th day with EF 68%, mild MR, mild TR. Viral myocarditis was strongly suggested and clinical adjustments were made. We shifted our treatment approach, tailored with her COVID-19, with the use of chloroquine, azithromycin and oseltamivir. Aggressive anticoagulant therapy with high-dose continuous infusion was also given. Improvements were clear and the patient was discharged after 2 weeks of hospitalization and 2 times of negative swab results.
Conclusion: In our case, the patient presented clinical and hemodynamic improvement after aggressive usage of anti-coagulant. In light of the hypothesis that the combined use of hydroxychloroquine and azithromycin results in viral clearance, our team administered these drugs on the fourth day of treatment.

Keywords:
Covid-19, myocarditis, myocardial infarction

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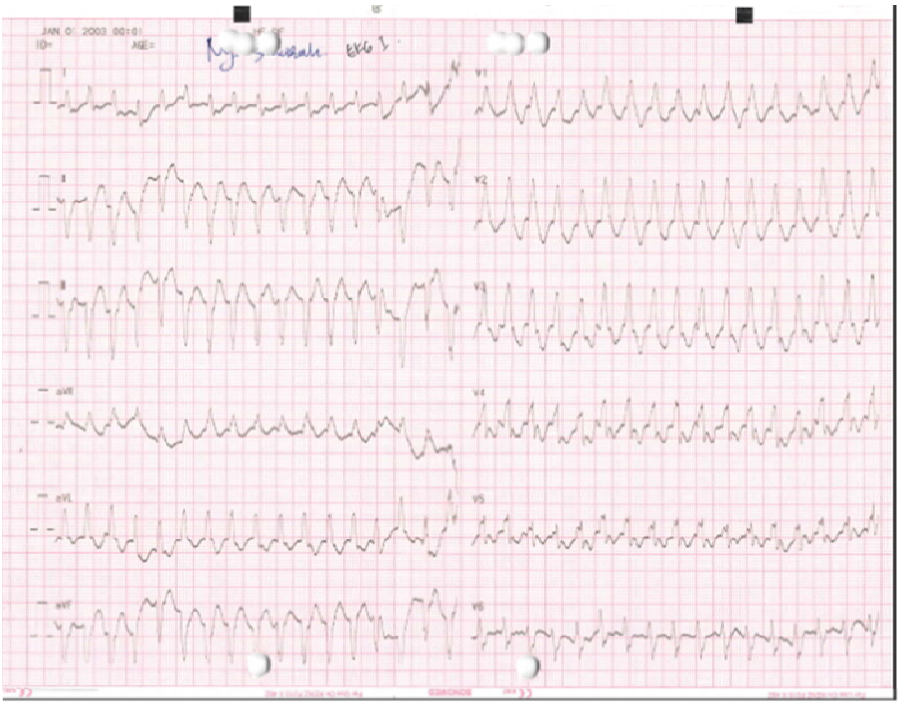

Fig 1. Initial ECG in the ER, showing ventricular tachycardia

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168. **Dealing with blood culture-negative infective endocarditis: a case series**

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Background: Blood culture-negative infective endocarditis (BCNIE) can occur in up to 31% of all infective endocarditis (IE) cases. We present two culture-negative cases with chronic non-specific presenting symptoms which posed diagnostic and therapeutic dilemmas.
Case Illustrations: First patient, a middle-aged male, complained prolonged fever for the last six months with general weakness. He had been on drugs for tuberculosis (suspect renal) for three months and had history of seizure due to subarachnoid hemorrhage a month ago. Latter examination found pansystolic murmur over mitral area. TTE discovered mitral valve prolapse with vegetation. Blood culture showed negative result, but clinical criteria fulfilled diagnosis of possible IE. He was referred to tertiary hospital, where cardiothoracic surgeon found his vegetation and evacuated it in conjunction with valvular replacement.
The second patient, SLE young woman, complained progressively worsen shortness of breath for a month, along with bilateral lower limbs edema. She was also a loss to follow-up case of pulmonary TB, without history as IV drug user. Physical examination found systolic murmur over left sternal border, along with bilateral lower extremities pitting edema. TTE revealed mild pericardial effusion with likely double vegetation at pulmonary valve and single vegetation at aortic valve with severe AR and MR. Although microbiological culture showed negative result, criteria for diagnosis of possible IE was fulfilled, so she was referred to tertiary hospital for further management. BCNIE can be caused by fungi or fastidious bacteria, but most commonly arises as a consequence of previous antibiotic administration. Hence, physicians need to withdraw antibiotics and then repeat blood cultures. In our cases, unfortunately, we could not repeat blood culture examination because it was only covered once by national health insurance.

Conclusion: The rate of BCNIE is still high and leading to diagnostic and therapeutic dilemmas.
Keywords: blood culture-negative, infective endocarditis, BCNIE

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169. **Perioperative Acute Myocardial Infarction After Mitral Valve Replacement**

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Background: Perioperative myocardial infarction (MI) after valve surgery is unusual and major cause of mortality and morbidity after cardiac valve replacement. The diagnosis can be missed if the pain is masked by postoperative analgesia and the possibility is not considered.

Case Illustration and Discussion:A 26-year-old woman presented with dyspnea on exertion New York Association Functional Class II. Electrocardiogram before the surgery was sinus rhytm with normoaxis. Echocardiogram showed severe mitral regurgitation because of prolaps anterior and posterior leaflet. She was planned for Mitral Valve Replacement (MVR). After MVR surgery (duration of cardiopulmonary bypass 38 minutes and aortic cross clamp time 24 minutes), she was shiftes to intensive care unit (ICU) and ECG showed ST-segment elevation in the anterior and inferior lead. Echocardiogram showed RWMA in inferior, infero-septal wall with left ventricular ejection fraction 30.7%. Serial cardiac troponin I was 21.98 µg/mL and increase >50 µg/mL (normal limit 0.015-0.038 µg/mL). Coronary angiography performed showed normal coronary artery. The patient was given oral anticoagulant at follow-up. There are few nonatherosclerotic causes of MI, can be spontaneous or iatrogenic. Spontaneous may be due to coronary spasm or coronary embolism. Iatrogenic is mainly due to the damage to circumflex vessel while taking mitral annular stitch or obstruction of coronary ostia due to the valve. Possible explanation in our patient may be due to coronary spasm or embolism and RWMA can be explained by stunning of the myocardium. The method of differentiating embolism or spasm from iatrogenic coronary injury is by perform angiography to rule out significant fixed mechanical obstruction and the observed ECG changes are usually reversible with time.

Conclusion: MI in the perioperative period of mitral valve surgeries is a rare. Early angiography is very important to elucidate the cause and guide the management strategy.

Keyword: perioperative MI, mitral valve surgery

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170. Acute Coronary Syndrome with Sick Sinus Syndrome Patient in West Kutai Regency: a Case Report

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Introduction.: Sick Sinus Syndrome (SSS) is a term used for a variety of cardiac arryhtmias, occuring predominantly in the elderly. The cause of SSS is dysfunction of Sino-Artrial Node (SA node). Its symptoms are intermittent sinus pauses, sinus arrest, and often intermittent bradycardia, tachycardia, and frequent alternation between the two conditions (tachycardia-bradycardia syndrome). Previous studies have reported the insidence of between 4 to 5 percent for sinus atrial dysfunction with patients acute coronary Syndrome (ACS). Another study has reported 20 out of 431 patients with ACS, yielding an insidence of 4-6 percent. Some drugs to treat patients ACS with heart failure might give rise of arrythmias that has been described, making the diagnosis of SSS is difficult.
The aim of this case report is to describe good outcome of Non ST elevation Acute Coronary Syndrome with Sick Sinus Syndrome patient after using conventional therapy because of some circumstances in West Kutai.
Case Report.: A 65 y.o. woman came to emergency room (ER) with general weakness and chest pain spread to back since one hour before admitted to ER. Physical examination was commonly in normal condition. However, we found heart rate were irreguler and jugular vein increase 3cm from baseline. Laboratory finding show increasing of HS Troponin I and from electrocardiogram we found ischemic on inferior wall and focal atrial tachycardia with episodes of sinus pause and alternation between tachycardia-bradycardia episodes. Diagnose of patient were Non ST elevation Acute Coronary Syndrome Very High Risk and sick sinus syndrome. We treated the patient with standard ACS protocol therapy and the patient refused to be referred for an immediate invasive strategy because the referral hospital was far away from West Kutai. After 7 days patient discharged from hospital in a good condition.
Conclusion. : Using conventional therapy with standard ACS protocol therapy in Non ST elevation acute coronary syndrome with sick sinus syndrome patient because of limited circumstance may result a good outcome although the best recommendation based on current guidelines for this kind of patient is still an immediate invasive strategy.

Keyword: Sick Sinus Syndrome, Acute Coronary Syndrome, Limited Circumstance, Conventional Therapy

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171. Severe Rheumatic Mitral Stenosis with Concomitant Significant Single Vessel Coronary Artery Disease: How to Manage?

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Background: Patients with valvular heart disease can have concomitant coronary artery disease (CAD). However, only limited data available on optimal strategies for diagnosis and management in our country. Mitral valve replacement (MVR) and coronary artery bypass graft (CABG) can be done as treatment of choice.

Case Illustration And Discussion: A 46-year-old woman came to cardiac outpatient clinic at Dr. Moewardi Hospital for elective MVR and BPAK. Patient has been known to have valvular heart disease since 2018. Since then the patient has had several hospital stays due to acute decompensated heart failure and control routinely at cardiology outpatient clinic afterwards. Echocardiographic examination showed severe rheumatic mitral stenosis with a planimetric mitral valve area (MVA) 0.8 cm^2 and velocity time integral (VTI) 0.4 cm^2. Moderate mitral regurgitation was obtained with a 0.6 cm of vena contracta width (VCW). There is also spontaneous echo contrast in the left atrium and left atrial appendage. Coronary angiography shows 90% occlusion in proximal left anterior descending artery (LAD). The patient then managed with MVR and CABG using a great saphenous vein graft. Post-operative evaluation revealed clinical, valve function, and good ejection fraction. Echocardiography showed bileaflet mechanical valve with optimal leaflet movement and position with mitral valve velocity max 1.80, mean pressure gradient 3.03-4.75 mmHg, doppler velocity index 1.13, effective orificium area 2.1-2.2, pressure half time 88 milliseconds, with peak early diastolic velocity 1.14. The patient was discharged and had routine control with no complaint.

Conclusion: MVR was performed on patients due to contraindications to percutaneous mitral commissurotomy (PMC) in the form of moderate mitral regurgitation and significant CAD. CABG is a better choice because it can increase life expectancy and can be done together with valve replacement.

Keywords: Rheumatic mitral stenosis, CAD, MVR, CABG

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172. Critical Step to Diagnose Myocardial Infarction: Case Series

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Background: Myocardial infarction can occur from imbalances myocardial oxygen supply and demand. It can be secondary to acute atherosclerotic plaque disruption or alterations in the absence of acute atherothrombosis. There must be clinical evidence to make the diagnosis and require individualized care of these patients.
Case Illustration: Case 1. A 42 years old man came to our Emergency Room with chief complaint typical chest pain while sleeping with VAS 8/10. He has history of CML in the last 6 years. His vital sign was normal. His abdominal examination revealed splenomegaly Schuffner II. Hb was 7,50 g/dL, HsCTn was 31 ng/L. ECG showed ST elevation in V1-3. Patient was observed in CVCU and had PRC transfusion 500cc/day until Hb level reached 10 mg/dL. After Hb level was 10 mg/dL, chest pain was disappeared and ST elevation returned to isoelectric baseline. Case 2. A 56 years old with complaint of typical chest pain for 4 hours before admission. His vital sign was normal. His conjunctivas are anemic. ECG showed ST elevation in aVR, ST depression in II, III, aVF and V3-V6. Blood laboratory resulted Hb 3,3 g/dL, cTn 0,10 ng/L. Patient had blood transfusion until Hb reached 9 g/dl. Patient complaints were diminished and ECG changes returned to normal ECG. There are heterogeneous pathophysiological processes may lead to ischemic cardiomyocyte injury other than coronary atherothrombosis, including imbalance oxygen supply and demand, which are called type 2 myocardial infarction. T2MIs are triggered by noncoronary aetiologies that reduce oxygen delivery and/or increase oxygen demand. Severe anemia, due to oxygen decreased lead to myocardial cell death with symptoms, ECG changes and release of cardiac troponin. Initial strategy for these cases were conservative
Conclusion: T2MI is frequent, and has significant proportion of ECG changes and cTn increases in clinical practice due to heterogenous pathophysiology. Clinical assessment of individualized approaches to diagnosis until treatment are needed.

Keywords: Type-2 Myocardial Infarction, Anemia

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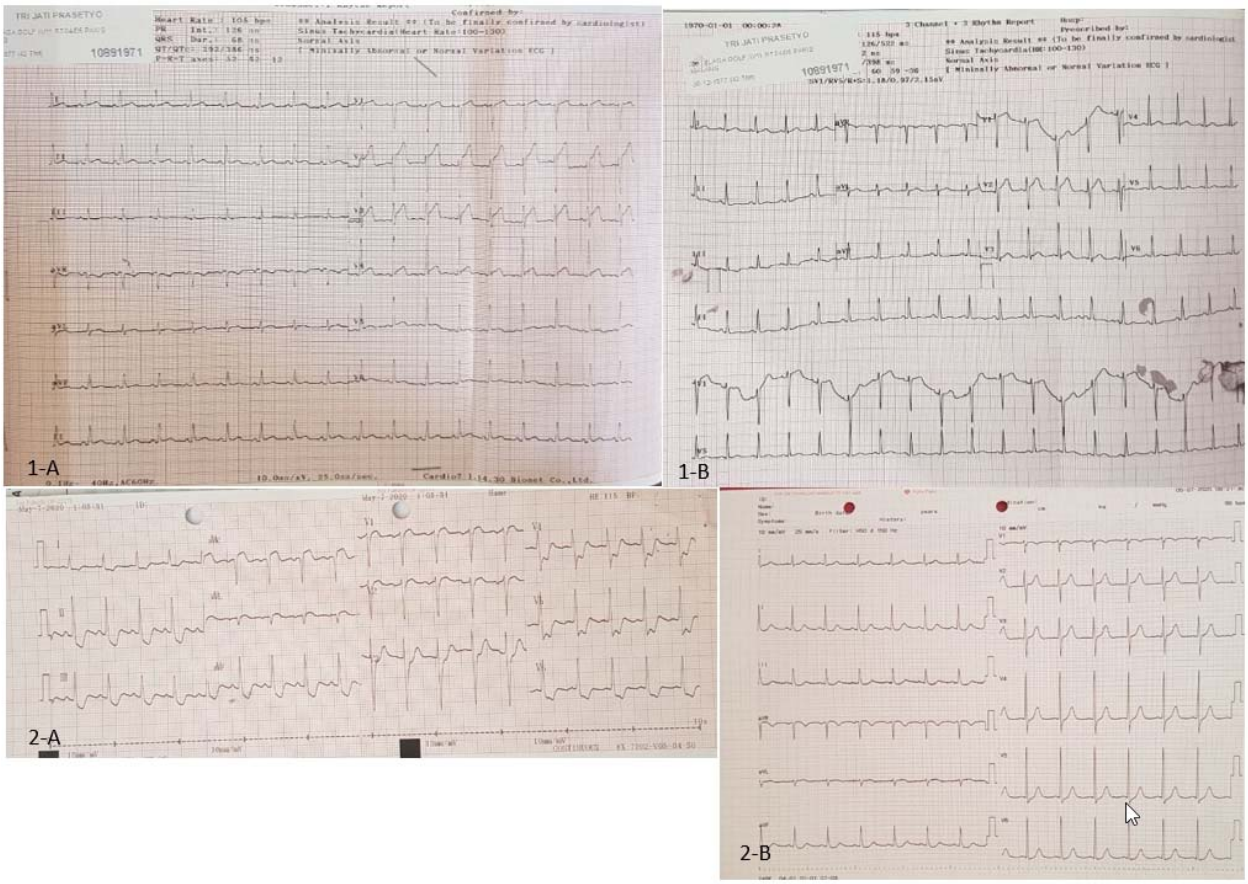

Figure 1. 1-A Showed ECG case 1 at arrival in emergency room; 1-B showed ECG after PRC transfusion reached Hb level 10 g/dL; 2-A showed ECG case 2 at arrival in emergency room; 2-b showed ECG after trensfusion reached hb level 9 g/dL

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173. **Acute ST Elevation Myocardial Infarction (STEMI) With Positive Covid-19 Rapid Test: A Case Report**

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Background: Patients with Covid-19 disease commonly manifest respiratory symptoms and less commonly develop cardiovascular complication either on presenting or during the course of the disease. The mortality is higher in patients with cardiovascular involvement.
Case Illustration:A 71-year-old male admitted to the hospital with acute chest pain 4 hours prior to the hospital. He also had nausea, vomiting and dyspnoea. He had history of uncontrolled diabetes. The patient was afebrile, BP 109/75 mmHg, HR 85 bpm, RR 22 rpm. Physical examination showed crackles in both lung fields. The electrocardiogram was suggestive of acute inferior ST-elevation myocardial infarction (STEMI). The chest X-ray showed cardiomegaly with suggestive of bilateral pneumonia. He got oxygenation and loading doses of dual anti platelet (DAPT). Blood tests showed elevated CK-MB 53.4 (N< 24 U/L) and Reactive IgM and IgG of Covid-19 by Rapid Test. Shortly afterwards, his condition represented hemodynamic instability with transient VT, intubation was performed. He received ringer lactate loading, MgSo4 i.v, Amiodarone i.v and, fibrinolytic therapy with alteplase. Thirteen hours after the admission, the patient suffered PEA and underwent cardiopulmonary resusitation for over 45 minutes. He showed no response and unfortunately died. We cannot do the primary PCI because of limitation in our staff and facility due to covid-19.Covid-19 is an infectious disease. Patients hardly ever presented with acute cardiovascular symptoms as in our patient. Several mechanisms by which Covid-19 can cause direct myocardial injury by altering ACE-2 signalling pathways and systemic inflammation as well as cytokine storm which lead to multi organ failure.
Conclusion: Due to poor prognosis of Covid-19 patients with STEMI, we highly recommend to do more comprehensive treatment especially coronary revascularization and stent placement as soon as possible.

Keywords
STEMI, Covid-19, Mortality

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174. **Successful fibrinolytic with Alteplase in early onset of ST-Elevation Myocardial Infarction: a case report.**

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Introduction: Most cases of acute myocardial infarction are caused by coronary artery plaque rupture with subsequent thrombus formation leads to acute ST-elevation myocardial infarction (STEMI) as the clinical outcome. Patients with acute STEMI should receive coronary reperfusion therapy with either primary percutaneous coronary intervention (PCI) or fibrinolysis. Reperfusion improves clinical outcomes in nearly all groups of patients with STEMI who present within 12 hours of symptom onset. However, fibrinolytic therapy can be delivered on time, should be used if timely primary PCI is not available.
Objective: To minimize the time and preventing re-occlusion after initially successful fibrinolysis.
Illustration: A 57-year old male, with the one-hour onset of sudden chest pain before admission to emergency department with light-headedness and unexplained diaphoresis. He had a history of a heart attack 2 years ago and hospitalized and did PCI with 2 stents in the right coronary artery. He also had a history of type 2 diabetes and hypertension. Blood pressure 158/101 mmHg, heart rate 119 respiratory rate 22. Heart sound within normal limit. No sign of pulmonary congestion. Electrocardiogram (ECG) results show ST segments elevation found in lead II, III, aFV, V4, V5, and V6 conclude inferolateral ischemia. After the administration of loading dose of DAPT (Dual Anti Platelet) drugs and fibrinolytic therapy with alteplase 15 mg bolus intravenous then 0.75 mg/kg intravenous over 30 min then 0.5 mg/kg intravenous over 60 min, ECG results shows inverted T waves found in lead II, III, aFV, V5, and V6. Fibrinolytic therapy is an important reperfusion strategy in settings where primary PCI cannot be offered on time and prevents deaths if patients treated within 6 hours after symptom onset. Changes in ECG after administration of alteplase show the improvement of clinical outcomes in this patient. We perform coronary angiography nearly one month after the patient discharged from the hospital and shows a normal flow of left main and left circumflex artery.
Conclusion: Fibrinolytic with alteplase of ST-segment elevation acute myocardial infarction shows the good improvement of coronary perfusion in this patient.

Keywords ST-elevation myocardial infarction, sudden chest pain, fibrinolytic therapy.

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175. Thyroid Storm And Ventricular Arrythmias Is A Potentially Fatal Combination : a Case Report

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Background: Cardiac arrythmias associated with thyrotoxicosis are usually supraventricular. Ventricular arrythmias are rarely associated with this entitiy and tend to occur in patients with intrinsic cardiac disease.

Case Illustration and Discussions : We present a case of 54-year-old Indonesian male admitted to our emergency department because he feels palpitations with chest discomfort, weak, and vomiting since two days ago. The patient has been previously diagnosed with hypertyroid. He had no history of hypertension or known heart disease and no family history of sudden death before. At presentation, the patient blood pressure was 139/87 mmHg, heart rate 167 beats per minute, respiratory rate 33 times per minute and body temperature 37.4° C. Physical examination within normal limits. Electrocardiogram showed ventricular tachycardia (VT). Laboratory result showed elevated free T4 7.62 ng/dL (0.93-1.70 ng/dL) and troponin I 522.5 pg/mL (≤26 pg/mL). The Wartofsky score was 50 which means highly suggestive of thyroid storm. Initial treatmaent was propranolol 10 mg every 8 hours, propylthiouracil 100 mg every 8 hours and acute coronary syndrome therapy. He was transferred to intensif care unit (ICU) assisted by ventilation. He showed improvement in ICU. On the fourth day after admission, cardiac monitoring presented asystole and we implemented cardiopulmonary resuscitation (CPR) but the patient didn't survive. Elevated thyroid hormone levels are thought to mimic adrenergic excess state by directly upregulating cardiac β receptors and enhancing myocardial sensitivity to symphatetic. Malignant ventricular arrythmias, which are potentially fatal, are exceptional and usually occur only in patient with marked heart failure or associated cardiac disease. These events are influenced by the modulating factors, such an ischemia and hormonal imbalance.

Conclusions: This case emphasizes the importance of cardiac monitoring in patients with thyroid storm to identify and treat these challenging and malignant arrythmias appropriately.

Keywords : thyroid storm, hyperthyroid, ventricular tachycardia, ventricular arrythmias

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176. **Case Series of Coronary Artery Disease in Young Adult. We Need Better Risk Stratification Tool for Primary Prevention in Young Adult**

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Background: Although Coronary Artery Disease (CAD) is more prevalent in patients older than 40 years, younger people are also affected. We noted the rise of patients younger than or 40 years old. Better risk stratification for younger population is needed for appropriate management.
Case Illustration and Discussion: Case 1: 39-year-old man had episodes of recurrent angina for 1 month with history of unstable angina pectoris. Known risk factor includes hypertension, smoking, and family history of Acute Coronary Syndrome (ACS). Angiography examination showed 3 Vessel Disease (VD) CAD.
Case 2: a 38 years old woman was referred with extensive anterior STEMI. She had diabetes and family history of ACS. Angiography revealed a 2VD.
Case 3: 40-year-old man was admitted with typical chest pain and diagnosed with NSTEMI of high lateral wall. The patient is a smoker, uncontrolled hypertension and family history of ACS. Catheterization showed 3VD CAD.
The current risk stratification tool such as SCORE or Reynolds risk score like many others only provide the risk stratification in population older than 40 and 45 years old respectively. The QRISK3 is a less known tool which may provide risk prediction in 25- 84 years old population. The younger patients present with higher relative risk of CVD event compared to older patients with similar risk factors. Our patients consecutively have a risk of 9.2%, 4.5%, and 10.8% meaning only the 3rd patient is classified as high risk using QRISK3 tool. Note that prior to the event, their risks were not properly measured using the available scoring systems thus highlighting the need of better primary prevention.
Conclusion : Coronary artery disease in young adult is a new trend. Primary prevention is the key point in younger population. The need for better risk stratification to identify and treat high risk young adult is urgent.

Keywords : Coronary artery disease, young adult, scoring system, primary prevention

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177. **Rare Case: An Adult with Double Outlet Left Ventricle (DOLV) and Ventricular Septal Defect**

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Background : DOLV is a very rare congenital cardiac anomaly in which both the aorta and pulmonary trunk arise entirely or predominantly from the left ventricle . The most common form of DOLV had a subaortic VSD, comprising 48% of the 109 case, or 73% of the cases with situs solitus and AV concordance.
Case Illustration : A 19 year old women was admitted to Cut Meutia general hospital with the chief complain of having easily to get tired and dyspnoe. The patient had spell , Failure to Thrive, and BMI: 17,6 kg/m^3. She previously diagnosed as DOLV with VSD from other hospital and advised to underwent surgery in infancy but her parent refused. Electrocardiogram findings showed sinus rythm, RAD, RVH RBBB. Echocardiogram showed Situs Solitus, AV double inlet LV, VA double outlet LV, VSD big muscular spread to outlet (subpulmonal), PDA, LV dilatation RV hipoplastic, Ejection Fraction (EF) 52%. Right Heart Catheterization showed DOLV, DILV, non committed VSD, malposed GA, RV hipoplastik FR 0.77 → 1.47, PARi 14.5 → 13.7 WU/m2. Mortality of DOLV is very high (85%) in first two years of life but decrease to 9% between 2 and 15 years. Few reach the middle age. In this case the patient's 19 years old. The patient complain having cyanosis with dyspneu because of coexisting the subpulmonic VSD. She has not operable because decreased of EF and high pulmonary artery resistance.
Conclusion : We describe a case with a living adult with DOLV and VSD which is a rare case. Patient with DOLV should have operable but in this patient have decreased EF and high pulmonary resistance.

Keyword: DOLV, malpose great artery, VSD

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178. **DAPT in Non ST elevation with Non Obstructive Coronary Artery Disease**

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Background : Coronary artery disease (CAD) is a pathological process characterized by obstructive or non-obstructive atherosclerotic plaques. Myocardial infarction with nonobstructive coronary arteries (MINOCA) is a heterogeneous clinical, characterized by clinical evidence of myocardial infarction (MI) with nonobstructive coronary arteries on angiography (≤50% stenosis). Dual antiplatelet therapy (DAPT) is recommendation for acute coronary syndromes but for MINOCA role of DAPT not established and clear recommendations are lacking.
Case Illustration and Discussion : A 54 years old woman was referred to our emergency department was diagnosed as Non ST elevation at Anterior extensive wall Killip II confirmed by typical chest pain, ECG at onset 11 hours Old myocard infraction inferior, Ischaemic anterior extensive, and ECG in RSHS onset 16 hours Old myocard infraction inferior, Ischaemic anterior extensive, ST- T changes (+) with a peak troponin I 0.20. And early invasive coronary angiography is reported as normal LCX and LAD. RCA has non-significant stenosis with slow flow. Patient have medication of DAPT after angiography, as we know DAPT for MINOCA not clear because some paper and guideline like ESC or AHA not fully recommendation for use DAPT or single Antiplatelet. However, SWEDEHEART trial Use of DAPT not associated with lower rate for mortality, hospitalization for MI, ischemic stroke, and heart failure. The PROSPECT study demonstrated that ACS occurs from atheroma with definite histopathologic characteristics that are not necessarily dependent on the degree of angiographic stenosis. Consequently, discharging MINOCA patients is challenging for physicians due to the lack of guidelines regarding optimal treatment.
Conclusion : Despite the lack of clear recommendations for the use of antithrombotics in patients with MINOCA. Use DAPT Can be open topic for discussion requiring additional appropriate investigation.
K**eyword**s : Coronary Artery Disease, Dual-antiplatelet, MINOCA

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179. **A 7-Month Years Old Patient With Tetralogy Of Fallot And Hipertrophic Cardiomyopathy**

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Background: Tetralogy of Fallot (TOF) is the most common cyanotic congenital heart disease and is often associated with other congenital defects. On the other hand, hypertrophic cardiomyopathy (HCM) is a genetic disorder that is typically inherited in an autosomal dominant fashion. The association of TOF and HCM is extremely rare. We report this association in a 7-month-old female cyanotic since birth, in her first hospital admission for diagnosis and treatment of recurring cyanotic.
Case Illustration and Discussion: The Patient is 7-month-old with cyanotic and dyspneic. The physical examination revealed cyanotic with O2 saturation 71%, dyspneic, tachycardia. Cardiac auscultation evidenced a heart rate of 140 bpm and a systolic ejection murmur audible in SIC II left parasternal line. The child also had cyanotic and clubbing of the fingers and her nails. The echocardiogram showed TOF associated with severe asymmetric septal hypertrophy. Propranolol 2 mg BID was started orally, after several days of hospitalization patient marked improvement in clinical condition and discharged. On follow-up patient died suddenly at the age of 10 months. Management of patients with TOF associated with HCM differs greatly from that of patients with TOF alone. The prognosis of patients with TOF and HCM is poor. There is currently no guideline for managing this rare association. From the literature, we find that From 1978 to 2012, there were 13 cases reported. They were usually diagnosed in infancy with presentation of cyanosis and CHF. We Chose pharmacological treatment with propanolol instead of surgery. Unfortunately patient suddenly died on follow up, maybe due to cardiac lethal arrhytmia associated with HCM.
Conclusion: The recognition of Tetralogy of Fallot associated with Hypertrophic Cardiomyopathy is great importance. The lack of literature and no guideline for managing this condition made prognosis is poor.

Keywords: *Tetralogy of Fallot, Hypertrophic Cardiomyopathy*

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180. **Successful Pericardial Sclerosing Using Bleomycin in Pulmonary Adenocarcinoma with Massive Recurrent Pericardial Effusion: A Case Report**

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Background: Malignant pericardial effusion (MPE) is a serious complication of several cancers. MPE can give rise to the clinical picture of cardiac tamponade, a life-threatening condition that needs immediate drainage. While simple pericardiocentesis allows resolution of the symptoms, MPE frequently relapses unless further procedures are performed. Prolonged drainage, talcage with antineoplastic agents, or surgical creation of a pleuro-pericardial window is the most commonly suggested.
Case illustration: We report a patient, male, 53 years, complained of dyspnea 2 days before hospital admission. The patient has a history of pulmonary adenocarcinoma undergoing chemotherapy for the past 1.5 months. He also had previously been hospitalized with the same complaint and performed pericardiocentesis. On physical examination, there are decreased heart sounds, increased jugular venous pressure, and decreased blood pressure. From echocardiography, there is a massive pericardial effusion. We performed pericardiocentesis followed with bleomycin injection. After nine days of hospitalization, the patient was discharged from the hospital. Three months follow-up, there is no occurrence of massive pericardial effusion.
Discussion: Bleomycin is used as a chemotherapy agent for several types of malignancies. Rapid fluid drainage and pericardial bleomycin administration effectively control symptoms and prevent recurrence of effusions in the majority of patients. In this case, bleomycin injection showed good results and seemed effective at preventing the recurrence of MPE.
Conclusion: Pericardial sclerosis with bleomycin is a safe and effective method of preventing recurrent malignant pericardial effusions and recurrent invasive procedures. This palliative procedure can improve the quality of life in patients with malignancy.

Keywords : Malignant pericardial effusion; lung cancer; pericardiocentesis; bleomycin, antineoplastic agents

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181. **Acute Complete Occlusion of Middle Right Coronary Artery Presenting with Precordial ST-Elevation: A Case Report**

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Background: We usually presume the ischemic-related artery (IRA) in acute myocardial infarction (AMI) based on the appearance of ST-elevation in corresponding electrographic leads. However, in this case, an acute complete occlusion in the middle right coronary artery (RCA) presented with ST-elevation in the precordial lead V1-V3.
Case Illustration: A 55-year-old male presented with angina chest pain 7 hours before. Admission electrocardiogram (ECG) displayed sinus rhythm with ST-elevation in precordial lead V1-V3, without any significant ST-segment changes in inferior lead. Cardiac biomarker was highly elevated. After taking dual antiplatelet and heparin intravenously, he was immediately undergoing percutaneous coronary intervention (PCI). Coronary angiography reveals complete occlusion in middle RCA, with a long acute marginal and chronic total occlusion (CTO) from ostia of LAD. After the wire penetrated the occluded RCA, the flow of LAD was seen coming from the collateral flow of occluded dominant RCA. A PCI to RCA was success to achieve complete perfusion both in RCA and LAD. The patient returned with complete resolution of symptoms. In our case, the CTO of LAD has been rendered RCA to give a collateral flow to LAD as a supplier. After complete occlusion in middle RCA, a good acute marginal gave the collateral to the inferior wall of heart making no changes in inferior leads. But the anterior wall was infarcted due to occlusion of RCA collateral flow to LAD. This was making ST-elevation in lead V1-V3 without ST-segment changes in inferior lead although the IRA was RCA.
Conclusion: There are many underlying mechanisms making occlusion of RCA presented with anterior ST-elevation. Using ECG as a noninvasive tool to discover the IRA is helpful. But accompanied it with imaging technique gives us the most appropriate technique to improve the outcome of disease.

Keywords: complete occlusion, ischemic-related artery, precordial ST-elevation, coronary angiography.

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182. **Wellens' Syndrome: Biphasic T-wave, Sign of Myocardial Preinfarction: a Case Report**

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Background: Wellens' syndrome represents 14-18% cases of Unstable Angina Pectoris and is suggested as a sign of critical occlusion of proximal left anterior descending (LAD) coronary artery. It is divided into 2 types according to the ECG pattern: biphasic T-wave is classified as type 1 (type A) accounts for 25% and deeply symmetrically inverted T-wave as type 2 (type B) accounts for 75%.
Case Illustration: A 57-year-old male presented to Emergency Room with a progressive intermittent chest pain for 5 days ago. Physical examination was unremarkable. His ECG showed biphasic T-wave in V2 to V3, with slightly elevated troponin-T. On bedside echocardiographic examination, anteroseptal hypokinetic with a left ventricular ejection fraction of 42% was detected. After having heparin and dual antiplatelet, he underwent coronary angiography and 80% stenosis with thrombus was seen in mid LAD artery. A drug-eluting stent was deployed successfully, showed complete perfusion. The patient was asymptomatic and discharged in stable condition and vital signs. Our patient fulfilled criteria for Wellens' syndrome type A, those are biphasic T-wave in lead V2 to V3, minimal elevation of Troponin T, no ST-elevation, no loss of precordial R-wave progression, no pathological precordial Q wave, and a history of angina. Yet in this rare case, the occlusion due to stenosis and thrombus was found in middle LAD. This phenomenon was also found in previous literature without any specific percentage of case and clear explanation about the mechanism. With this one rare case reported, we should render another research about the mechanism of this phenomenon.
Conclusion: It is crucial for physicians to recognize ECG features of Wellens' syndrome to lower the risk of anterior myocardial infarction by taking appropriate therapy and immediately intervention.
Keywords: Wellens' syndrome, biphasic T-wave, precordial lead, LAD occlusion.

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183. **Mitral Stenosis in Pregnancy**

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Introduction: Valvular heart disease is often underdiagnosed due to asymptomatic presentation in early onset of the disease. Hemodynamic changes in pregnancy may exacerbate symptoms of previously asymptomatic mitral stenosis (MS). This case aims to describe mitral stenosis in pregnancy.
Case Illustration and Discussion: A 27-year-old female, P_3A_1, presented with dyspnea immediately after giving birth to a preterm baby at 31-32 weeks gestation through spontaneous vaginal delivery. Blood pressure was 120/90 mmHg, heart rate 123 bpm, and respiratory rate 30 bpm with 89% oxygen saturation. The patient denied any previous heart disease. Physical examination showed rales over both lung bases and grade 3/6 diastolic murmur at the apex. Chest X-ray showed lung edema and ECG showed sinus tachycardia with left atrium enlargement. Echocardiography revealed severe mitral stenosis, mild mitral regurgitation, dilated left atrium with 44% ejection fraction. Treatment consisted of furosemide, spironolactone, digoxin, oxygen support, and fluid restriction. The patient unfortunately died on the seventh day of hospitalization.During pregnancy, previously asymptomatic MS patients often develop symptoms because of significant increases in blood volume, heart rate, and cardiac output. Patient mortality is highest during labor due to a 30% increase of cardiac output during first stage of labor and up to 80% in the immediate postpartum period, decreased diastolic time with increased heart rate, and sudden increase in preload due to relief of inferior vena cava from uterus compression. These factors contributed to pulmonary edema which caused the patient's mortality. Preconception counselling and timely intervention of MS is recommended as its treatment during pregnancy is complex and requires a multidisciplinary approach.
Conclusion: Severe MS is poorly tolerated in pregnancy. Early detection and adequate management of MS in pregnancy are essential to prevent life threatening complications that may arise especially at delivery.
Keywords: Valvular heart disease, mitral stenosis, pregnancy, acute lung edema

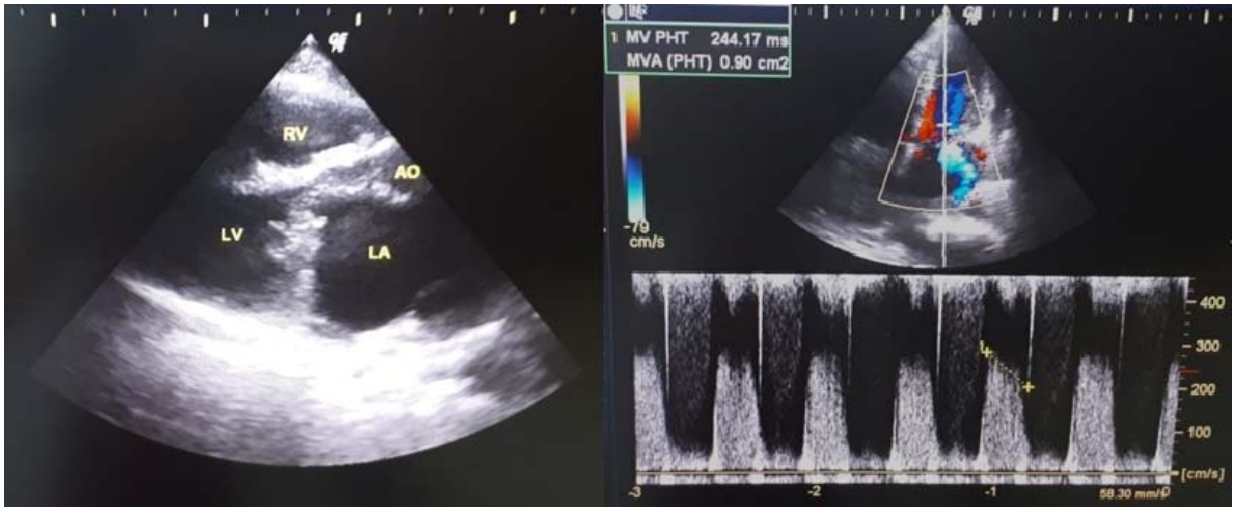

Figure 1. Echocardiography showed mitral stenosis with dilated left atrium

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184. **Ventricular Arrhythmias from Right Ventricle Outflow Track: Is It All Benign? Case Report**

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Background: Idiopathic ventricular arrhythmias (VA) from right ventricular outflow track (RVOT) are common and benign with good ablation outcome, however it should be distinguished from early stage of arrhythmogenic right ventricular cardiomyopathy (ARVC) since it's also shared normal anatomy.
Case illustration:A 53 years old female came with chief complains of palpitation and near syncope. She's past medical history was unremarkable. Physical examinations reveal irregular heart sound. Electrocardiography and Holter monitor showed premature ventricle contraction (PVC) and non-sustained ventricular tachycardia (NS-VT) with LBBB type, inferior axis, early transitional zone compared with sinus rhythm (V2-V3 vs V3-V4) and R/S ratio < 0,6 with PVC/NS-VT burden of 19%. Echocardiography showed normal anatomy and both ventricles function. Laboratory findings also within normal limits.

Patient went for conventional ablation procedure. The earliest activation at midseptal RVOT (-40 ms) and pacemap showed 11/12 similarity compared with left ventricle outflow track (LVOT). Ablation using non-irrigating catheter cannot terminate PVC (sub-optimal). A 3D ablation approach using local activation time (LAT) showed a large area with earliest activation (-30 to -40 ms) at mid-posteroseptal with fragmented EGM. A 3D electro-anatomical voltage mapping (3D-EAVM) showed large low voltage area at posteroseptal to superior RVOT and a small low voltage area at anterior RVOT. Endocardial ablation at this area cannot terminate PVC. Careful observation is need to search sign of ARVC in future.
Conclusion: Ventricular arrhythmias from RVOT could also an early stage of ARVC. It's difficult to distinguished from Idiopathic RVOT VT. A 3D-EAVM is an effective tool for the identification of myocardial abnormalities in early stages of ARVC.
Keyword: Ventricle tachycardia from RVOT, arrhythmogenic right ventricle cardiomyopathy, 3D-electro-anatomical voltage mapping

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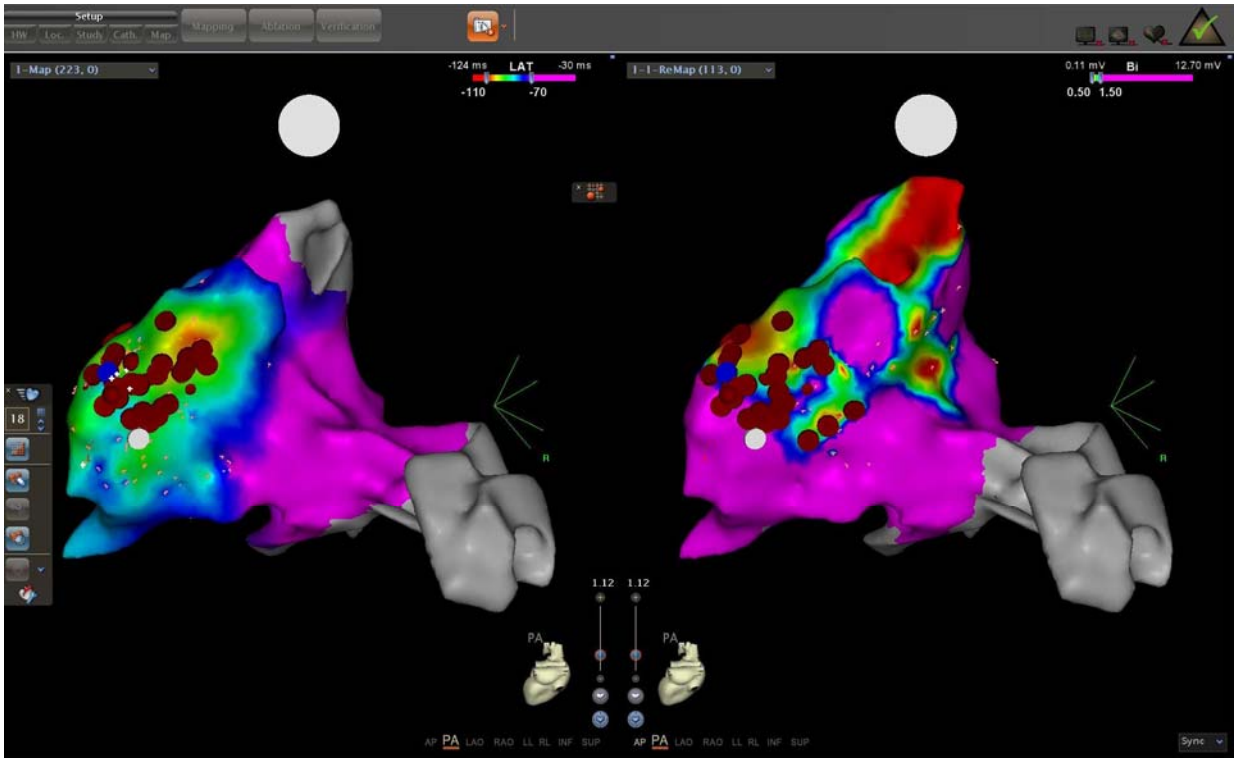

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185. A Diabetic Male Patient With Atypical Presentation Of Acute Coronary Syndrome, An Underdiagnosed: A Case Report

F. Arifin

Background: Acute coronary syndromes (ACS) is a medical emergency, life-threatening conditions with high mortality and morbidity. The diagnosis of ACS is missed in approximately 2% of patients.
Case description: A 51 years old male came to emergency department with complaint of epigastric pain with tight stomach since 3 days, nausea, but no vomiting. There was not chest pain complaint, there's history of uncontrolled Diabetes Mellitus, he denied history of hypertension. Physical examinations revealed BP of 90/60 mmHg, HR 54 tpm, RR 26 tpm with oxygen saturation 95%, patient got elevated JVP, tenderness at epigastric region and edema in lower extremities.
Shortly after physical examination we recorded ECG, and the result was ST elevation with Q in III and aVF, ST depression in I, aVL, V2-V6 with 2nd degree AV block. Subsequently, the Trop T quantitative number was 1188.
Chest x-ray showed cardiomegaly with pulmonary edema. Echocardiography showed reduced global LV systolic function with LVEF 29-31%. The final diagnosis were STEMI inferior, left-sided heart failure, type 2 diabetes mellitus, and 2nd degree AV block. Atypical presentation of ACS can mislead physician up to 33% total patient with missed diagnosis of ACS can double short-term mortality. The atypical presentation more often occur in the elderly, women, patient with diabetes, chronic renal disease, or dementia. The absent of chest pain symptom in diabetic patient has been well-recognized, and is assumed to be a manifestation of autonomic neuropathy which cause defect in anginal warning system.
Conclusion: Atypical presentation of ACS is a challenging diagnosis for physician particularly for physician who practice in emergency department. Several conditions and diseases can mislead physician to diagnose patient with ACS resulting in missed diagnosis. A careful history taking and physical examination with proper workup are necessary to diagnose ACS.

Keywords
ACS, atypical presentation, diabetes mellitus

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186. **Double Outlet Right Ventricle in the Newborn: A Type of Critical Congenital Heart Disease that is Often Misdiagnosed**

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Background. Critical congenital heart disease (CCHD), referred to as CHD which requires surgeries or catheter intervention within the first year of life, is often asymptomatic and missed during screenings of the newborn. Newborn with CCHD often appear well during screening, but sudden life-threatening deterioration could occur within hours, and delay in diagnosis will increase morbidity and mortality.

Case Illustration and Discussion. This is a case of a premature-34 weeks old newborn with remarkable screening scores, but sudden desaturation after 8 hours of observation. Physical examination showed oxygen saturation 50-70%, blood pressure 75/45 mmHg, heart rate 150 beats/min, respiratory rate 50-60 x/min with very minimal retractions. Auscultation noted grade III systolic parasternal murmur and clear lungs. There was no cyanosis observed. The baby eventually needed intubation and, on a ventilator, to ensure adequate oxygenation and also to lessen the burden of the heart. Echocardiography showed overriding aorta, rooted from both LV and RV, normal pulmonary valve, suggestive of double outlet right ventricle (DORV). There were VSD present, patent PDA and foramen ovale. After being intubated for 2 weeks, the baby's hemodynamic keep on getting better, the pediatrician suggested extubating the baby. The baby is now still in the incubator at our NICU, showing stable vital signs, with oxygen saturation 80-95% on room air. The baby is expected to be transferred to hospitals with pediatric cardio surgery capabilities for further treatments.

Conclusion. DORV occurs 1% of all CHD, it often mimics other CCHD, and usually exists with other malformations. Treatment is surgical, and supportive medication to prevent right heart failure and pulmonary congestion. Due to lack of hospital capabilities, usually, these patients need to be transferred with long queues, hopefully, more centers will be built that are capable to treat them.

Keywords: double outlet right ventricle, critical congenital heart disease, misdiagnosed, sudden desaturation, premature

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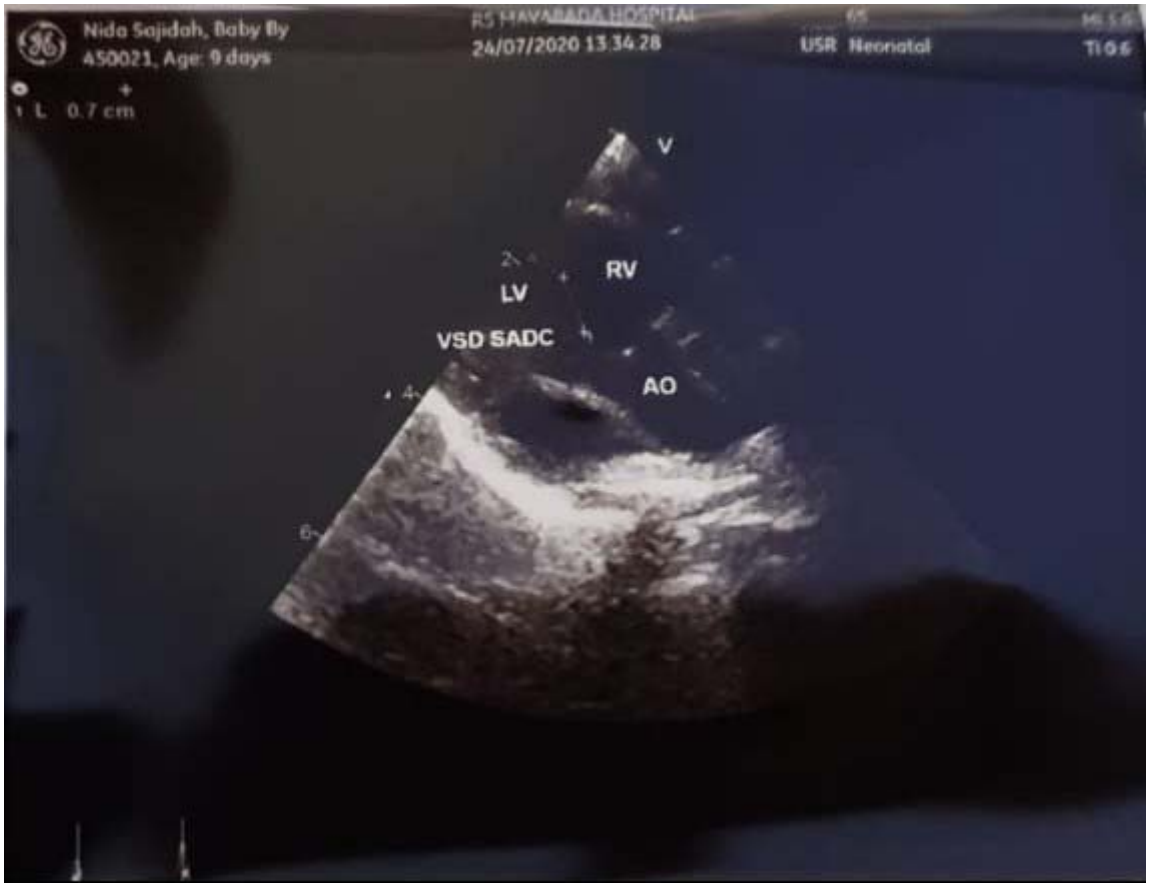

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187. **Acute Complete Occlusion of Middle Right Coronary Artery Presenting with Precordial ST-Elevation: A Case Report**

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[5] Grandmed Hospital, Lubuk Pakam, Indonesia

Background: We usually presume the ischemic-related artery (IRA) in acute myocardial infarction (AMI) based on the appearance of ST-elevation in corresponding electrographic leads. However, in this case, an acute complete occlusion in the middle right coronary artery (RCA) presented with ST-elevation in the precordial lead V1-V3.
Case Illustration: A 55-year-old male presented with angina chest pain 7 hours before. Admission electrocardiogram (ECG) displayed sinus rhythm with ST-elevation in precordial lead V1-V3, without any significant ST-segment changes in inferior lead. Cardiac biomarker was highly elevated. After taking dual antiplatelet and heparin intravenously, he was immediately undergoing percutaneous coronary intervention (PCI). Coronary angiography reveals complete occlusion in middle RCA, with a long acute marginal and chronic total occlusion (CTO) from ostia of LAD. After the wire penetrated the occluded RCA, the flow of LAD was seen coming from the collateral flow of occluded dominant RCA. A PCI to RCA was success to achieve complete perfusion both in RCA and LAD. The patient returned with complete resolution of symptoms. In our case, the CTO of LAD has been rendered RCA to give a collateral flow to LAD as a supplier. After complete occlusion in middle RCA, a good acute marginal gave the collateral to the inferior wall of heart making no changes in inferior leads. But the anterior wall was infarcted due to occlusion of RCA collateral flow to LAD. This was making ST-elevation in lead V1-V3 without ST-segment changes in inferior lead although the IRA was RCA.
Conclusion: There are many underlying mechanisms making occlusion of RCA presented with anterior ST-elevation. Using ECG as a noninvasive tool to discover the IRA is helpful. But accompanied it with imaging technique gives us the most appropriate technique to improve the outcome of disease.

Keywords: complete occlusion, ischemic-related artery, precordial ST-elevation, coronary angiography.

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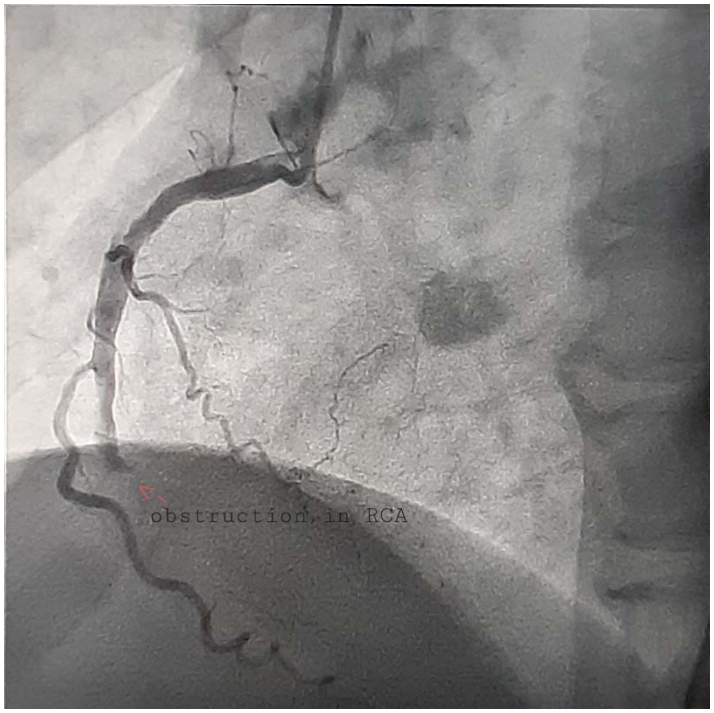

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188. **Survival from Acute Total Occlusion of Left Main Coronary Artery - A Case Report**

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Background:

Unprotected left main coronary artery (ULMCA) disease is a rare case but has major prognostic implications. The recent data show that percutaneous coronary intervention (PCI) may be a safe and effective alternative to surgical revascularization in selected patients.

Case Presentation: A 62-year-old man with typical chest pain, with risk factor heavy smoker and family history of CVD. He was in stable hemodynamic. The ECG showed ST elevation at lead V1-V5, I, AVL and AVR. The cardiac enzym was increased. Assestment for this patient is STEMI Anterior extensif. An early primary PCI was performed with result an acute total occlusion at the distal left main, LCX occluded by distal embolization. Implanted stent in the LM-Mid LAD with provisional stenting technique. A 3.0 x 31 mm Sirolimus-eluting stent was implanted. Optimalization of anticoagulant, potent DAPT, ACE inhibitors and beta-blockers were added. Coronary angiography evaluation after 2 month showed improvement in LCX coronary flow than before. ULMCA in STEMI often presents with cardiogenic shock and associated with higher risks of MACE and higher mortality even if treated with reperfusion therapy in time. Primary PCI was revealed to have a clinical outcome comparable to that of CABG in recent studies because of the improvement of PCI procedure. Limited data are available on management patients with unprotected LM disease presenting with ACS including STEMI.

Conclusion: We reported a case of patient with Survival from acute total occlusion of left main coronary artery, which was successfully treated with immediate provisional stenting primary PCI and continous with the optimal antithrombotic therapy with anticoagulant and potent dual antiplatelet therapy.

Keywords: Acute total occlusion, Left main coronary artery.

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189. Mushroom Poisoning: An Important Cause of Symptomatic Bradycardia in Rural Area

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[3]Lumajang Islamic Hospital, Lumajang, Indonesia

Background: Several types of mushrooms are identified all over the world, few species are edible and most of them are poisonous. Mushroom poisoning (MP) usually occurs as a result of the ingestion of toxins in wild mushrooms. The most common symptoms of MP are gastrointestinal upset and neurological changes. However, in some cases, it potentially causes serious cardiovascular manifestation due to cardiovascular-related muscarinic toxicity.

Case Presentation: A 53-years-old man was admitted to the emergency room with a chief complain of dizziness, severe nausea and profuse vomiting. He reported ingesting several wild mushrooms about 4 hours earlier. He was unable to bring them to the ER for further examination but his description matched with *Clitocybes* species. He had no previous significant medical history.On physical examination, he was awake and fully oriented. His vital signs were: blood pressure 148/82 mmHg, heart rate 46 beats/minute. Excessive salivation, sweating, and lacrimation were noted. ECG showed a marked sinus bradycardia. Laboratory findings were unremarkable. Intravenous crystalline fluids and 1 mg of bolus injection of atropine, along with other supportive treatments were administered. After series of atropine injections, he showed symptom improvement and was discharged after 48 hours observation.MP most commonly occurs in the rural area. It can pose a great danger if muscarinic toxicity occurs. In this report, patient presented with early onset muscarinic syndrome after ingestion of poisonous mushroom. Cardiovascular-related muscarinic syndromes, while rare, are ranging from bradycardia, hypotension, and cardiac arrest. There is no specific antidote available for MP. Patients generally respond well to atropine and usual supportive therapy.

Conclusion: Effects of MP on the cardiovascular system are rarely investigated but remain to be important in rural area, as they can be fatal if they go unnoticed.

Keywords: bradycardia, atropine, muscarinic poisoning, mushroom poisoning

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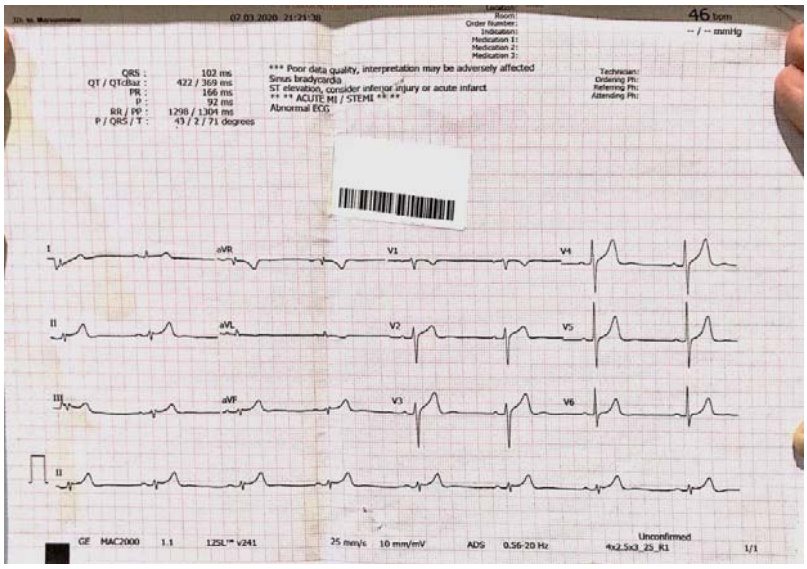

190. Acute Management of Pre-excited Atrial Fibrillation in Wolff-Parkinson-White Syndrome

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Background: Wolff-Parkinson-White (WPW) Syndrome is a condition characterized by presence of an accessory pathway (AP) that put patients at risk of tachyarrhythmia. Thirty percent of WPW patients have concomitant atrial fibrillation (AF) which can present with pre-excited AF that may degenerate into life-threatening condition.
Case Presentation:A 51-year-old man presented to the emergency department with a report of sudden-onset palpitations started 14 hours before admission. On physical examination, he was alert with the

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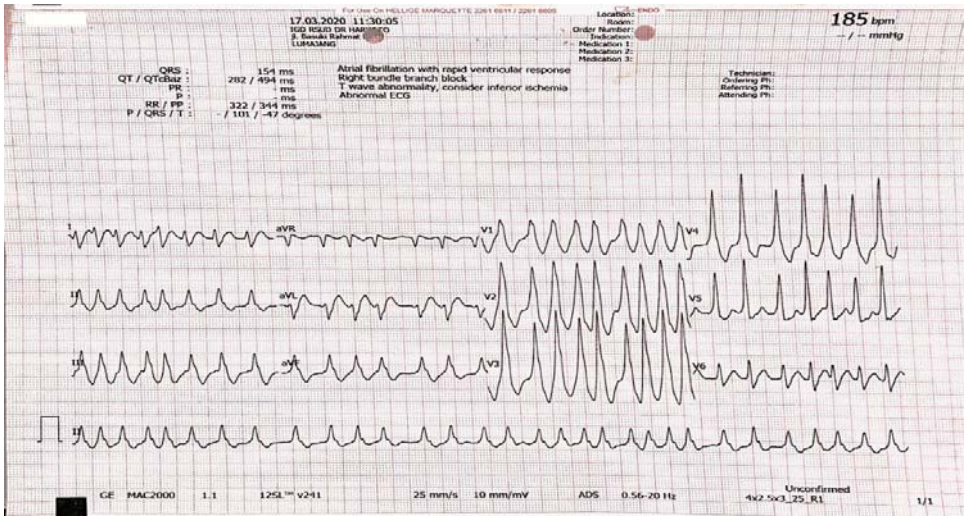
blood pressure of 90/60 mmHg and the heart rate was 185 bpm with an irregularly irregular pulse. The extremities were cold and clammy. The other physical examination findings were unremarkable.
The ECG revealed irregular wide complex tachycardia with varying QRS width and pre-excitation pattern. A synchronized cardioversion started with 120 J was performed with an immediate return to sinus rhythm. ECG during sinus rhythm revealed a pre-excitation pattern that implied a presence of anterograde conduction using left lateral wall AP. His hemodynamic status remained stable following cardioversion.
Initial management of pre-excited AF depends on the presence of hemodynamic instability. In a patient with unstable hemodynamic, urgent electric cardioversion is indicated. In a stable patient, pharmacological cardioversion using intravenous ibutilide, procainamide, propafenone or flecainide can be attempted. However, those drugs are not available yet in Indonesia. It is important to note that any AV nodal blocking agent (adenosine, verapamil, diltiazem, beta blockers, digoxin and amiodarone) should be avoided, as these drugs may enhance conduction over the AP, accelerate the ventricular rate, and provoke more life-threatening ventricular arrhythmia.
Conclusion: Pre-excited AF is a potentially life-threatening arrhythmia that may complicate the course of WPW Syndrome. The mainstay treatment of pre-excited AF in Indonesia is electrical cardioversion irrespective of patient's hemodynamic status due to unavailability of intravenous ibutilide, procainamide, propafenone and flecainide.

Keywords: wolff-parkinson-white Syndrome, pre-excited atrial fibrillation, acute management



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191. **Double Left-Sided Native Valve Perforation Due To Infective Endocarditis : A Rare Case**

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Background: Double native valve perforation is a rare and potentially devastating complication of valve endocarditis. Approximately 10% of patients with endocarditis have simultaneous aortic and mitral valve infection. Lesions of the mitral valve that are secondary to the aortic infective process are rare and they are known as 'mitral kissing vegetations'. This type of lesion develops on morphologically and functionally normal leaflet, when the aortic valve vegetation or aortic retrograde flow has a direct contact with the ventricular surface of anterior mitral leaflet (AML).
Case Presentation: We report a case of 24-year-old man presentating with infective endocarditis of the left-sided native aortic and mitral valve concomitant with perforation AML and right coronary cuspis (RCC). Diagnostic approach by transthorasic echocardiography (TTE) and transesophageal echocardiography (TEE) examinations found a mobile/oscillating vegetation attached to the aortic and mitral valve, with a destructive characteristics endocardial tissue discontinuity showing valve perforation. The patient underwent urgent surgical double valve replacement procedure. Primary mechanism of AML perforation includes leaflet damage through infectious agents or structural defects in mitral leaflets or direct extension of infection along the mitral–aortic intervalvular fibrosa. Secondary mechanisms include, repeated impingement of a prolapsing aortic vegetation directly contacting to the AML causing inherent weakening of the valve tissue or the disrupting endocarditis aortic regurgitation jet damaging towards the AML.
Conclusion: This case is a rare case of a double left-sided native valve infective endocarditis disease requiring urgent cardiac surgery. Early recognition and treatment could prevent morbidity and mortality.
Keywords: *double valve perforation, infective endocarditis, mitral kissing vegetations*

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192. Case Study: Abdominal Aortic Aneurysm performed Endovascular Aneurysm Repair, Initial Evaluation of Early and Late Complication from Simple to Advanced Tools

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Background: Endovascular Aneurysm Repair (EVAR) is a sophisticated way to treat patients with Abdominal aortic aneurysm (AAA). Further investigation needed both clinical and supporting examination holds an important key to explore early and late complications of EVAR. Here we present the case of patient undergoing EVAR procedure and what should we evaluate.

Case Presentation: A 64-year-old ex-smoker patient presented with a palpable and pulsatile abdominal mass of 4 months duration. By subsequent examination, the patient was decided to performed EVAR. DUS evaluation within normal limit, an early CTA scan at first month revealed patent stent along infrarenal – iliac artery, adequate flow, no sign of endoleaks.The aim of the first follow up examination is to clinically assess patient recovery, access-related complications, and reliable aneurysm exclusion. DUS examination can verify the absence of endoleaks and assess limb patency and flow. As DUS does not assess stent-graft overlap, seal length, and kink, it may need to be augmented by CT without contrast. With further development, intra-operative angiography combined with cone beam CT for completion assessment could possibly replace the post-operative CTA but further investigations are required.From imaging, we also evaluate arterial branches from aorta abdominal started from superior mesenteric artery, renal artery, lumbar artery, gonadal artery (testicular artery or ovarian artery), iliac artery, and branches. Surveillance of the aneurysm does not end there. Long-term follow-up is challenging, and noncompliance with imaging reaches close to 60% approximately 3 to 4 years after EVAR. Lifetime surveillance of these patients is important given the potential for late complications, which may not present until they become life-threatening.

Conclusion: Clinical and imaging evaluation holds an important key to detect early and late complication of EVAR. Starting from simplest imaging modality such as DUS climb up to CTA.

Keywords: Abdominal Aortic Aneurysm; Endovascular Repair; Early evaluation; Complication

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193. 2-D Speckle Tracking Echocardiography for Complete Heart Block Undergoing Permanent Pacemaker Implantation: A Case Report

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Background: Right ventricular pacing has detrimental effect on contraction abnormality, resulting in adverse impacts on left ventricle function. We sought to evaluate myocardial mechanics using two-dimensional (2D) speckle tracking echocardiography (STE) in complete heart block before and after implantation pacemaker.
Case Presentation:A 64 years old male with symptomatic complete heart block underwent permanent pacemaker implantation. Two-dimensional echocardiography was performed at baseline and following RV septal pacing. LV dyssynchrony and global strain parameters were analyzed using speckle tracking strain imaging. In the early phase, there was a decrease of Global Longitudinal Strain (GLS) from -24.3% at the baseline to -13.2%. There was no evidence of dyssynchrony based on the analysis of the Standart Deviation Time to Peak (Time SD) in longitudinal strain. This could be because the evaluation performed in the early period, so that LV dyssynchrony had not yet been formed. In addition, placing the lead in the septal RV also reduce the formation of dyssynchrony.
Conclusion: During septal pacing, the global longitudinal strain is acutely impaired, but LV dyssynchrony is not observed.
Keywords: Global longitudinal strain, pacing, spackle tracking echocardiography, dyssynchrony.

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194. Challenging Reperfusion Strategy of Patient with ST-Segment-Elevation Myocardial Infection in Covid-19 Era

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Background: Coronavirus-Disease-2019 (COVID-19), caused-by Severe-Acute-Respiratory-Syndrome-Coronavirus-2 (SARS-CoV-2), occurs in addition to existing-challenges to emergency-services, like ST-elevation myocardial infarction (STEMI).Reperfusion-therapy is a measure of care in patients with ST-elevation-myocardial-infarction (STEMI), which should be performed once we have the diagnosis. Percutaneous-Coronary-Intervention is considered the-gold-standard, however in patients with SARS-CoV-2-infection, the-reperfusion-strategy is more focused on Fibrinolytic-Therapy due-to the-shorter-time required to-perform and less-exposure.

Case Presentation: A-46-years-old-man presented with chest-pain since 2 hours before entering the-emergency-room. Symptom was not relief by resting. He was an-active-smoker, history-of-hypertension-and-diabetes were unknown. BP: 148/97, HR: 94, RR: 29, Temperature: 36,8. Physical examination was normal and in ECG we found ST-Segment-Elevation-in-anteroseptal-area with RBBB. Patient was given Clopidogrel 320 mg and Chewing-Aspilet 160 mg. After consulted with cardiologist, we decided to perform Fibrinolytic-Therapy. The-Fibrinolytic-checklist-criteria was qualified, SARS-CoV2-Rapid-Test was not-reactive, NLR: 5.11, ALC: 2483,19. There's-not-found pneumonia on the-chest-x-ray. The-process-of-Fibrinolytic-Therapy was successful and patient referred to ICU.In this patient we preferred to-choose Fibrinolytic-Therapy due-to pandemic-situation. PPCI treatment delays in the COVID-19-era arise, even among COVID-19 negative patients, through the steps and time in the emergency room required to establish contact history, the-symptoms, chest x-ray, etc, before transfer to the-cardiac-catheterization-laboratory. RT-PCR has routinely been used to confirm diagnosis and it will take a long-time to know the result. This patient was not-reactive on SARS-CoV-2-Rapid-Test, but we still concerned to use fully-protection.Fibrinolytic-Therapy was the first effective reperfusion treatment to be systematically implemented for STEMI. Subsequently, PPCI was proven superior to FT, becoming the standard of STEMI care across the-Western-world**.**

Conclusion: The-mortality-benefit-associated with primary PCI may be lost if door-to-balloon-time is delayed by >1 hour compared with FT-door-to-needle-time. Early reperfusion may be more important than the mode of reperfusion.In-caring-for our patients, we must recognize that optimal-care-strategies, established outside-the-challenges of a pandemic, may be potentially-suboptimal during one.

Keywords: COVID-19, STEMI, Reperfusion, Fibrinolytic-Therapy

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195. A Case of Pacemaker-induced Extracardiac Stimulation Manifested as a Seizure-like Symptom

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Background: Pacemaker-induced extracardiac stimulation resulted in involuntary muscle contraction is a rare complication. Extracardiac stimulation usually involves the diaphragm, pectoral muscle, or intercostal muscles.
Objective: To present and discuss a case of pacemaker-induced extracardiac stimulation.
Case Presentation: A 28-year old-male with history of permanent pacemaker placement was admitted with symptoms presumed to be recurrent syncope and seizure. After careful anamnesis, he was fully alert when the event happened. Physical examination and lab result were unremarkable. Chest x-ray showed good lead position with no visible lead defect. Pacemaker measurements showed VVI mode, unipolar ventricular lead with amplitude 1.5 V, sensitivity 3 mV, impedance 326 Ω. Output test resulted muscle twitching when amplitude was 4.5 V. We changed polarity to bipolar and did output test until 6.5 V, and no muscle twitching was observed. Although the patient reported complaints of recurrent seizures, it was actually because of muscle twitching from pectoral muscle caused by extracardiac stimulation of pacemaker. It was made clear when pectoral muscle twitching reappeared while we increased the output of the pacemaker. Common causes of local muscle contractions are insulation defect of the lead, positioning of the anode directly on the muscle, defective coating, or inappropriate output. In our case, lead insulation defect was suspected due to low pacing impedance. Decreasing the pacemaker output may minimize the stimulation. If it occurs in a polarity-programmable pacemaker, reprogramming to the alternate polarity may alleviate the problem. Lead repositioning or replacement is required if the problem cannot be resolved by reprogramming. In this case, we changed the lead into bipolar lead, and no muscle twitching was observed anymore.
Conclusion: Lead insulation defect is one cause of local muscle contractions by pacemaker and should be suspected when impedance is low. Decreasing the output or changing the polarity lead may alleviate the problem.

Keywords: Extracardiac stimulation, insulation defect, pacemaker, twitching

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196. Brugada Phenocopy Induced by Electrolyte Imbalances in a Patient with Acute on Chronic Kidney Disease: A Case Report of Rare Entity

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Background: Brugada syndrome (BrS) is a life-threatening channelopathy characterized by right bundle branch block and ST-segment elevation in right precordial leads (V1-V3), which associated with sudden cardiac death. Brugada phenocopy (BrP) refers to conditions inducing Brugada-like pattern of electrocardiogram (ECG) in patients without true BrS.
Case Presentation:A 58-year-old woman presented to emergency department with anuria for 3 days and general weakness. She had history of hypertension, chronic kidney disease, and cervical cancer but refused chemotherapy. Physical examination showed pale conjunctiva, ascites and ankle edema. Laboratorium examination showed hemoglobin 7.0 g/dL, leukocytes 20.400/µL, platelets 550.000/µL, urea 153 mg/dL, creatinine 88 mg/dL, sodium 122 mmol/L, and potassium 7.3 mmol/L. ECG showed sinus tachycardia with widened QRS complexes and coved-type ST-segment elevation ≥2 mm (type 1 Brugada pattern) in leads V2 and V3. She denied any history of syncope. Family history was negative for sudden cardiac death. She was diagnosed with acute on chronic kidney disease with electrolyte imbalances, anemia, and suspected obstructive uropathy from invasive cervical cancer. She was given insulin with dextrose and calcium gluconate for hyperkalemia, followed by emergency hemodialysis. After electrolytes were normalized in 12 hours, a repeat ECG showed disappearance of type 1 Brugada pattern.Reversible BrP ECG changes has been reported to occur in conditions of electrolyte imbalances like hyperkalemia and hyponatremia, acidosis, hyperglycemia, myocardial ischemia, pulmonary embolism, and certain drugs or substances. In this case, BrP was defined by the presence of reversible Brugada pattern after resolution of the electrolyte imbalances and low clinical pretest probability of BrS. So, the patient was not referred for further electrophysiology study. Careful history taking and examination is needed to not miss true BrS. BrP should be kept in mind in the patients with electrolyte imbalances with Brugada ECG patterns which resolved after treatment.
Conclusion: Electrolyte imbalances is one of the most common causes of BrP. It is important for clinicians to differentiate BrP from BrS to avoid unnecessary workup.

Keywords: Brugada syndrome, Brugada phenocopy, electrolyte imbalances

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197. **Clinical Approach to Dyspnea and Chest Pain in 11-Year-Old Girl: Coronary Artery Fistula Case Report**

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Background. Coronary artery fistula (CAF) is one of rare anomaly in which there is a connection between coronary artery and chambers of the heart, major thoracic vessels, or other coronary arteries, that bypass the myocardial capillary bed. CAF account for 0.002% of the 0.2-1.2% of all coronary anomalies' incidence, while the exact number remains elusive. The clinical presentation varies between dyspnea, angina, syncope to sudden cardiac death, whilst some remain asymptomatic.
Case illustration and discussion. Here we describe a 11-year-old girl presented to the emergency room with a chief complaint of dyspnea and fever, alongside severe fatigue and exertional pain in the chest radiating through the left shoulder blade. Twelve-lead ECG shown a likelihood of an ischemia in anterior region while pulmonary congestion and a slight cardiomegaly seen on chest plain radiography. The patient undergoes series of laboratory testing with some indication of an acute inflammation with no obvious origin. The two-dimensional echocardiography shows continuous turbulent flow in main pulmonary artery, raise suspicion of a coronary artery fistula that had been confirmed by invasive coronary angiography. In this patient, the CAF originates from left main coronary artery and terminate into the main pulmonary artery. The goal of our treatment was to improve symptom of the patient using pharmacological agents then refer it to national cardiovascular center to further receive definitive treatment.
Conclusion. CAF might be a rare case, nevertheless, the clinical importance of assessing the patient holistically remain the key aspect. This patient had a dyspnea and fever, yet extrapulmonary causes was the main culprit. This case should enhance the possibilities of extra pulmonary causes in children with dyspnea.

Keyword: Case report, Child, Chest pain, Coronary artery fistula

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198. Unexpected STEMI in Young Peripartum Woman: Shifting the Paradigm

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Background: Traditional epidemiology studies have shown that young population, notably woman, is distant from a risk of developing Acute Coronary Syndrome (ACS). This produce a less justification for ACS suspicion when they presented with a chest discomfort, leading to a fatal misdiagnosis and mistreatment. We presented a case of a young woman with a history of giving birth, presenting with a chest discomfort.
Case Presentation: A 31-Year-old women presented to the ER with a new onset chest discomfort which worsen for two days prior to admission. Past medical history was remarkable for known Hypertension and Diabetes Mellitus without any medications. She delivered her first baby 6 months ago. She appeared agitated, with a high blood pressure (150/80mmHg) with signs of pulmonary edema. A clinical suspicion of peripartum cardiomyopathy was excluded when the ECG tracing showed acute anterolateral wall MI (figure 1). Prior to the decision to activate the Cath-Lab, a bedside echocardiography was held and showed a decreased ejection fraction and regional wall motion abnormality; without any signs of apical ballooning of the left ventricle; excluding the suspicion of stress cardiomyopathy. On the coronary angiography, we found a total occlusion on the proximal segment of LAD. Given the late onset and the totally occluded IRA, a conservative strategy with optimal medical therapy was chosen with a scheduled follow-up PCI in the next month. On the 5th day, the patient was safely discharged from the hospital.
Conclusion: We report a case that best represent a call for paradigm shift of the High-Risk population term. ACS in a young population are steadily increasing and should raise our suspicion when presented with this population that was conventionally labeled as low risk population for ACS. Taking off ACS of the list of differentials in this population may lead to misdiagnosis with fatal outcome.

Keywords *: Acute Coronary Syndrome, Young Adult, Woman*

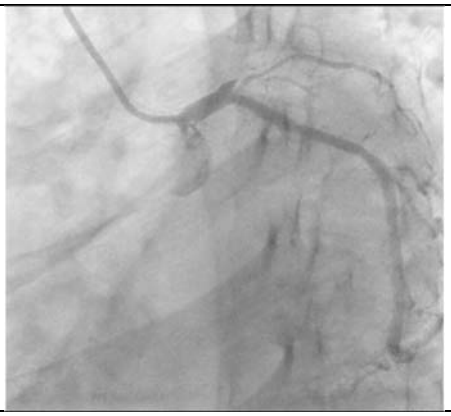

Figure 1:
Coronary Angiography showed totally occluded proximal LAD

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199. An Art of Blood Pressure Control in Patient with Acute Kidney Injury : a Case Report

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Background: Hypertension is associated with acute kidney injury. Approximately 15% of patients with acute kidney injury have a history of hypertension in Indonesia. The mortality rate in patients with hypertension rises from 1% to 10% with concomitant acute kidney injury. The objective is to present a case with challenging hypertension therapy in acute kidney injury patient.
Case Presentation: A 32-year-old woman presented with acute appendicitis, hypertensive urgency and acute kidney injury. She had a history of hypertension treatment for five years with amlodipine. The evaluation demonstrated blood pressure elevated to 240/130 mm Hg. ECG and chest x-Ray indicated left ventricular hypertrophy and cardiomegaly, respectively. Laboratory test revealed increased creatinine (5,2 mg/dl), ureum (107mg/dl) and potassium (4,5mEq/L). The abdominal ultrasound indicated appendicitis, and no abnormality was found in renal parenchyma as well as renal artery stenosis. Initially, the patient was treated with β-blockers and RAA blockers, but after two days, there was an increase in potassium level (5,0mEq/L). Therefore, we consider switching to calcium channel blockers, α_2 agonists and nitrate to achieve tight blood pressure control. Before discharge, there was a reduction in blood pressure (140/70) and creatinine level (3,5mg/dl).
Discussion: Our conservative approach was successful in improving kidney function recovery—The use of RAA blockers has been commonly used, although associated with increased potassium level. We used calcium channel blockers as an alternative without effect in potassium; also, we added α_2 agonist and vasodilator (hydralazine) to attain blood pressure target optimally. Since hydralazine was unavailable in our setting, we administered nitrate as a substitute. The treatment approach should differ based on various clinical situations.

Conclusion

Management of hypertension in acute kidney injury remains unsettled. Adequate control of blood pressure may improve renal function.

Keywords: Acute Kidney Injury, Hypertension Treatment, a Young Woman

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200. **Cor Triatriatum Sinister with Patent Foramen Ovale in an Adult: A Case Report**

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Background: Cor triatriatum is a rare cardiac malformation. In the classical form of cor triatriatum sinister, the left atrium divided by a fibromuscular membrane into two chambers. Although presentation in infancy is most common, a minority of individuals present in adulthood. We present a case of cor triatriatum sinister with patent foramen ovale.
Case Presentation: A-24-years-old woman referred due to shortness of breath in the last two months and worsened in last five days. She has no significant past medical history of note. She was hypotensive, tachycardic, and desaturated. She felt both legs were swollen. Her extremities were cyanotic. She had murmur pansystolic III/VI at the apex and lower left sternal border of the heart. TTE showed a membrane divided the left atrium with continuous flow across the membrane. TEE showed stretch PFO with right to left shunt. CMRI showed blood flow continuously through the fenestration of the membrane. She was scheduled for right heart cathetherization, but desaturated due to anxiousness. She was hospitalized for two weeks then discharged after the condition was stabilized.
Discussion: Cor triatriatum is among the rarest of all congenital cardiac anomalies. The most frequent coexisting cardiac anomalies included atrial septal defect, PFO, tricuspid regurgitation, and myxomatous mitral valve disease. The diagnosis is usually established by TTE. TEE is superior to TTE, providing better imaging of the membrane and the degree of obstruction. The CMRI is effective to evaluate anatomic abnormalities, dynamic cardiac function, and hemodynamic. Surgical resection of the intra atrial membrane is indicated with severe obstruction.
Conclusion: Although rare, Cor triatriatum sinister in adult life is important to recognize. TTE was common modality to diagnosed Cor triatriatum. Meanwhile TEE was superior in imaging the morphology of the intraatrial membrane. MRI also help to visualize anatomic abnormality and could evaluate the cardiac function precisely.

***Keyword**: Cor triatriatum, Patent foramen ovale, TTE, TEE, CMRI*

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201. **A 42-Year-Old Woman with Pulmonary Embolism and Unstable Hemodynamics In Emergency Department: A Case Report**

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Background: Pulmonary embolism is a cardiovascular emergency in which an infarct occurs in the lung due to occlusion of the pulmonary artery. Pulmonary embolism is difficult to diagnose clinically because it has atypical symptoms so that the mortality rate for pulmonary embolism reaches 10% -15% in the United States.
Case Presentation: A 42-year-old woman come to the emergency unit with symptoms shortness of breath and heartburn penetrated to back body since 2 day ago. Patients also have Paroxymal Nocturnal dyspneu (+), orthopneoe (+) and dyspneu of effort (+). The patient had a history of traditional left lower leg massage since 2 weeks ago. Risk factor Hypertension (-), DM (-). A Well score of 9 and a Geneva score of 14. Physical examination revealed that the left inferior limb was pain when moved and edema + 2. ECG found S1Q3T3, Sinus Tachycardia, T inversion in v1-v4.Lab examination leukocytes 12,600/mm3, CK-MB 5, Troponin I (-), D-Dimer > 10000. Echocardiogram showed the dimensions of the heart chamber RA, dilated RV and severe TR Triscupid valve, TR Vmax 3.5m/s PASP 60mmHg. Thorax X-ray showed Cardiomegaly. Primary therapy Enoxaparin 2x0.6cc, Aspirin Tab 1x80mg, Lumbrokinase oral Cap 3x1. Evaluation of therapy was carried out 1 month later, obtained TR Mild, PASP 20 mmHg.The diagnostic approach to the Geneva score and well score was still carried out. D-dimer test and echocardiography can be performed in hemodynamically unstable conditions. LWMH and fondarinux anticoagulants are given priority because of tolerance, side effects and monitoring therapy. Giving oral lumbrokinase 2-3 months as a specific thrombolytic provides a significant total resolution of the thrombus and improves myocardial perfusion in stable angina.
Conclusion: Non-specific clinical manifestations complicate the diagnosis plus the hemodynamics is unstable, so scoring systems, d-dimers and echocardiography are still recommended. Pulmonary Angiography Examination in Indonesia is not evenly available in health facilities.

Keywords: D-dimer, Geneva Score, Lumbrokinase, PASP, Pulmonary embolism

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202. **Myocardial Infarction Associated with Coronary Artery Bypass Grafting: Case Report**

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Background: Perioperative Myocardial Infarction or type-5 MI is major postoperative complication in CABG and the most common cause of morbidity and mortality. PMI was reported in 3–30% of the CABG patients, can extend hospital stay up to 30 days and increase the risk of cardiac arrhythmias, heart failure, and death.
Case Presentation: AH, 57 years-old-man was diagnosed CAD3VD with stable angina and severe LV dyscfunction (LVEF: 33%), and ECG preoperative sinus rhytym with his comorbid were diabetes and hypertension. He underwent a succesfull off pump CABG with 4 graft without complication. Immediate post-operative ECG showed new complete LBBB then became to sinus ryhytm with ST elevation on V1-V5 on the next day with evolution, then increase Trop-T and CKMB (1907 ng/L;186 U/L). Patient was diagnosed with type-5 MI and treated with anticoagulant for 5 days. He did not have chest pain anymore and got discharged on 8th day after CABG.Incidence of PMI reported from 3 to 30%, mainly because there are no absolute gold standards. The diagnosis of type-5 MI is problematic, need fast and accurate assessment of ischemia have become especially important, such as the tenfold increase in cardiac troponin along with coronary angiography, echocardiography, and ECG changes. In asymptomatic patients, redo-CABG or PCI should be considered if the artery is a good size, severely narrowed and supplies a large territory of myocardium. He had new complete LBBB with elevation cardiac enzyme. Diabetes and severe LV dysfunction are believed to be risk factors for PMI.
Conclusion: Perioperative myocardial infarction or type-5 MI is major postoperative complication in CABG. The diagnosis of type-5 MI is problematic, need fast and accurate assessment of ischemia have become important and challenging for cardiologist because no absolute gold standard and various diagnostic criteria available.

Keyword: type-5 MI, CABG, PMI

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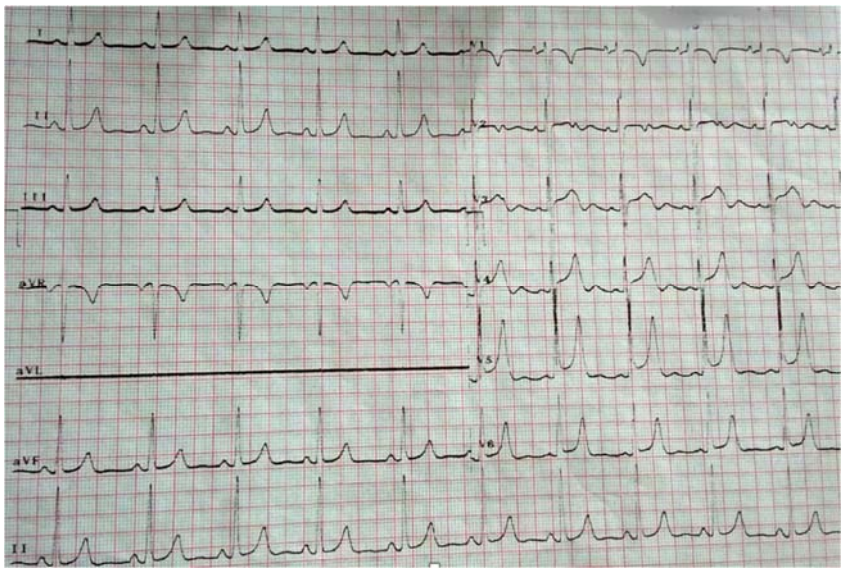

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203. **Type A Aortic Dissection: Challenges in Diagnosis and Management in Peripheral Hospital**

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Background: Stanford Type A aortic dissection is a progressing and life-threatening disease, usually presented in acute state. However, in a small percentage attributed to its atypical symptoms, the disease can be misdiagnosed or found incidentally. Few unrecognized acute type A dissections advance to chronic type A aortic dissection (CTAD), defined as more than 90 days. Rapid diagnosis, optimal medical therapy, and potential surgical intervention are needed to prevent progression of dissection and mortality.

Case Presentation: We report a 71-year-old male presented with sudden onset of abdominal discomfort accompanied with syncope. He had hypertension for 15 years, coronary artery disease (CAD) diagnosed 12 weeks before, and history of ischemic stroke last year. Cardiac and lung examination were normal. Electrocardiogram showed Q waves on inferior leads, chest x-ray (CXR) showed cardiomegaly and widened mediastinum, troponin I was unremarkable, transthoracic echocardiography showed left ventricular hypertrophy and normal aortic root. Initially, patient was diagnosed with CAD and syncope. Oxygen, aspirin, bisoprolol, and isosorbide dinitrate were administered. He remained stable and was referred to a tertiary hospital for computed tomography angiography (CTA) on the basis of suspected aortic aneurism from previous CXR. CTA showed Stanford type A aortic dissection. Due to personal belief, he refused to undergo surgical procedure. Currently, he has been stable with amlodipine and atenolol in the last 5 months without any remarkable symptoms or complication.

Conclusion: Aortic dissection may present with atypical symptoms and progress to chronic condition. Therefore, clinicians should maintain high level of clinical suspicion to prevent delay in diagnosis. Modalities such as CXR, echocardiography and CT-scan may confirm the diagnosis. While surgical is the first choice of treatment, conservative treatment may stabilize the condition in such cases, at least temporarily.

Keywords: CTAD, aorta, CT angiography, hypertension, geriatric

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204. **The Importance of Controlling Risk Factors in Advanced Heart Failure: A Case Report**

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Background: The prevalence of heart failure is approximately 1-2% in the adult population and its incidence increases with age. In Indonesia, the mean age of the patients who suffer from heart failure is lower than in others, more in developed countries, showing the vulnerability of Indonesia's population to such disease. Studies have shown that many factors associated with heart failure.
Case Presentation :A 57 years old male came to the emergency unit with the chief complaint of worsening dyspnea for four days before admitted. The symptoms and examination were consistent with acute decompensated heart failure. Supportive findings showed atrial fibrillation and ejection fraction 24%. The patient started present heart failure symptoms from ten years ago then admitted to the hospital repeatedly because of the disease. He had first noticed suffer hypertension and diabetes mellitus from ten years ago, now controlled by medication. The body mass index calculated to obese (35.92 kg/m^2) with a waist circumference of 105 cm. He also had a long history of smoking for 39 years. The patient had already prescribed multiple combined drugs for advanced heart failure before admitted.
Conclusion : Many factors have shown contributed to heart failure. Controlling the risk factors as early as possible is an important step, but still challenging in the advanced stage. There is a need comprehensive approach to control the risk factors to prevent and control advanced heart failure stage, reduce the morbidity, and reduce the mortality rate.

Keywords: advanced heart failure, metabolic syndrome, smoking, atrial fibrillation

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205. **Intracoronary Thrombolytic As A Successful Bail Out Strategy In STEMI with Left Main Artery Occlusion: A Dawn In The Darkest Night**

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Background: Intracoronary thrombolytic has arises as a promising aspect of reperfusion strategy. Although not mentioned in the traditional myocardial infarction reperfusion guidelines, but various studies have shown a good patency of coronary blood flow after successful recanalization. We present a case of the utility of intracoronary thrombolytic strategy that was meant as bailout strategy upon the failure of lesion crossing in the setting of STEMI involving mid Left Main artery as a culprit.

Case Presentation:A 46-year-old man presented to the E.R. with a complaint of prolonged chest pain in the last 6 hours prior to admission. He was fully alert, vitals are within normal limits except for tachycardia, and the physical examination was unremarkable. ECG tracing showed an acute extensive anterior wall infarct, upon which the cath-lab was activated for a primary PCI. The coronary angiography revealed a total occlusion on the mid segment of Left Main artery. Attempt to cross the lesion with wire (Sion Blue Wire- *by ASAHI*) was unsuccessful. It was then decided to do a mechanical thrombectomy (ASAPLP – *by Merit Medical*) which also failed to achieve recanalization. Upon these failures for lesion crossing, a bail-out strategy using intracoronary thrombolytic was done, using direct intracoronary injection of alteplase 20 mg within 10 minutes. A repeated angiography after injection showed a successful recanalization with a TIMI 3 flow without residual stenosis. Post Intervention, the chest pain subsides and vitals are stable. Patient was then discharged safely on the 5th day. No adverse cardiac event encountered within the next 30-days of follow-up.

Conclusion: Intracoronary Thrombolytic may serve as a liable bail out strategy on the term of difficult lesion crossing in the settings of STEMI. This strategy may accentuate the achievement of good TIMI flow upon recanalization which is the known golden target for reperfusion strategy of STEMI.

Keyword : Intracoronary Thrombolytic, Acute Myocardial Infarction, Percutaneous Coronary Intervention

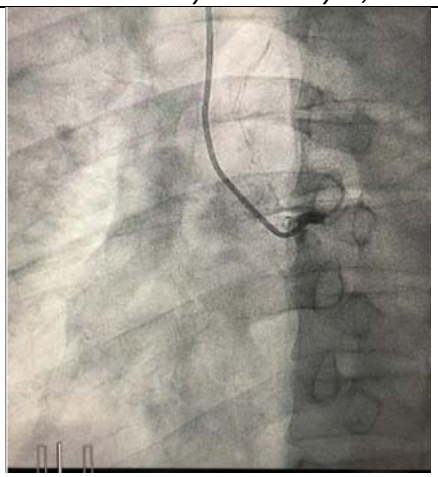

Figure 1: Initial Coronary Angiography

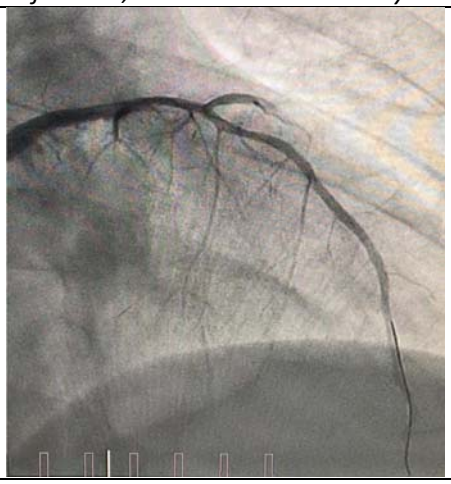

Figure 2: Post Intracoronary Thrombolytic

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206. **Acute Limb Ischemia in Acute Leukemia Patient: What Should We Do**

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Background: Thrombosis in acute leukemia happened in 6.3% patients, and 20% were arterial thrombosis. Only few cases reported acute limb ischemia in Acute Lymphoblastic Leukemia (ALL) patient.
Case Presentation: A case of 60 years old male with a complaint of resting pain and tingling sensation of his left leg in the last three days. He had a fever for one month and cough with bloody sputum. Physical examination showed a lack of pulse at his left lower extremity from femoral artery to dorsalis pedis artery, with mottled skin (Figure 1).

Laboratory examination showed hemoglobin 7.2 g/dl, leukocyte 145,000/µl, and thrombocyte 23,000/µl. Peripheral blood smear showed leukocyte consisted of 67% lymphoblast and 18% myeloblast. The patient then was diagnosed as acute limb ischemia.

Revascularization was urgently planned. Surgical embolectomy was forfeited due to patient's low hemoglobin and thrombocyte level. Arteriography showed a total blockage of femoral artery until distal arteries due to thrombus/leukostasis (Figure 2). Percutaneous embolectomy using Angiojet® (Boston Scientific Corp., MA) was done, however it was not successful. Hyperleukocytosis was treated with mercaptopurine and rehydration. The patient then waits for an amputation operation if his blood condition was acceptable. The pathophysiology of thrombosis in leukemia patient was due to leukostasis. The theories were occlusion of vessels due to non-deformable blast cells; and blast-endothelial interaction in which blast cells promotes endothelial cells to secret cytokines, thus recruits more blast to adhere. Antiplatelet and anticoagulants may benefit since the embolic material is composed of leukemic cells and thrombus. No guidelines stated a clear message on how to manage embolic occlusion due to leukostasis.
Conclusion: Acute limb ischemia in acute leukemia is thought due to leukostatis. Urgent surgical or percutaneous embolectomy were needed. Antiplatelet and anticoagulant may be beneficial to prevent limb loss.

Keywords: acute limb ischemia, acute lymphoblastic leukemia, percutaneous embolectomy

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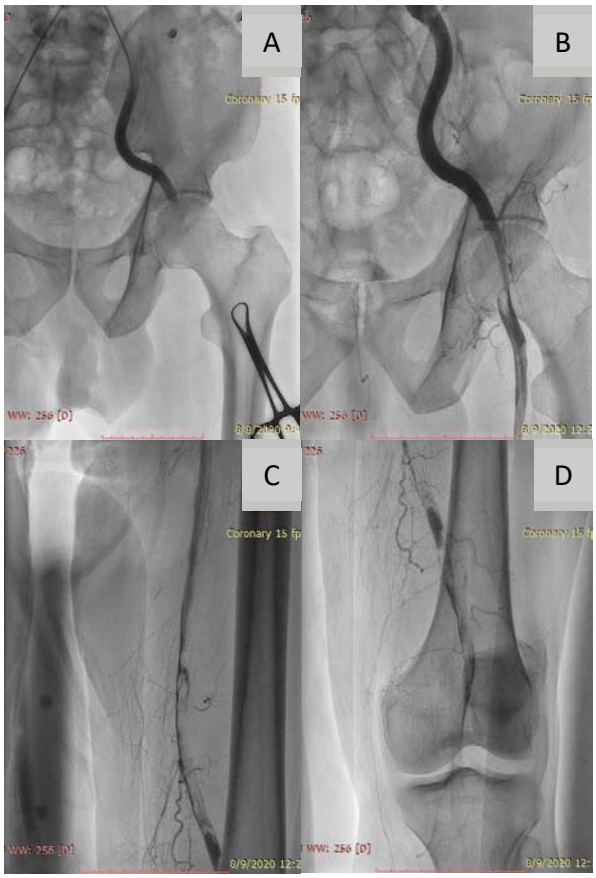

Figure 2. Pre-embolectomy arteriography showed total thrombus at left femoral artery (A), Arteriography performed after-embolectomy showed significant residual thrombus/occlusion throughout left femoral and left popliteal arteries with no flow to distal arteries (B, C, D)

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207. **Double Outlet Right Ventricle in Baby with Down Syndrome: A Case Report**

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Background: Double outlet right ventricle (DORV) is a complex congenital heart disease characterized by two great arteries completely or predominately arise from right ventricle. DORV without pulmonary stenosis classified into three categories, DORV with subaortic Ventricle Septal Defect (VSD), subpulmonary VSD, and noncommitant VSD. Down's syndrome (Trisomy 21) mostly accompanied with congenital cardiology malformation (50%). The aim of the study to report Down's Syndrome cases accompanied with DORV, VSD Subaortic, ASD, and PDA in Pandan Arang Hospital.
Case Presentation: A 5 months old baby came to cardiologist after being referred from pediatrician since she has feeding difficulty, tachypnea during feeding. From physical examination, patient appeared failure to thrive with weight for height <-2SD. The baby looks mongoloid, desaturated (SpO_2 86%) and systolic murmur grade 4/6 was heard on upper left sternal border. Furthermore, we did echocardiography and found DORV with Subaortic VSD (7 mm), Secundum ASD (6 mm), and PDA (6 mm). From chest radiograph, the lung appeared plethoric. From the clinical pictures, we assessed the patient as heart failure ROSS Criteria III. Since the pediatrician had a suspicion to Down Syndrome, we did the thyroid function tests and found out this baby had subclinical hypothyroidism, TSH were markedly elevated 10,51 ulU/ml and fT4 in normal range 0,78 ng/dl. We could not perform genetic karyotyping to confirm the diagnosis. We gave Furosemide, Captopril, Levothyroxine sodium and since our hospital did not have Cardiothoracic surgeon so we referred the baby to tertiary hospital for definitive treatment.
Conclusion: We present one case of congenital heart disease in our remote hospital. Nowadays, Down Syndrome cases has raised in Indonesia. Thus, insight into the associated congenital malformation such as congenital heart disease should be detected earlier by doing echocardiography in every susceptible newborn to prevent further complication such as heart failure and pulmonary hypertension.

Keywords : *Down's Syndrome*, *Double Outlet Right Ventricle, Subaortic ventricular septal defect*

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208. **Role of Deferred Stenting in ST-Segment Elevation Myocardial Infarction Patients with High Thrombus Burden**

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Background: Immediate reperfusion therapy by stenting on primary percutaneous coronary intervention (pPCI) is the current gold standard for patients presenting with ST-segment elevation myocardial infarction (STEMI). However, there is a high risk of no/slow-reflow due to secondary thrombosis or distal embolization especially in patients with high thrombus burden. Recently, a deferred stenting strategy after mechanical flow restoration has been used to reduce the risk of a "no-reflow" phenomenon.
Case Presentation: Case-1. A 54-year-old man presented with acute inferior wall STEMI. HS-Troponin level was >40.000 ng/L (normal range: <19 ng/L). Coronary angiography (CAG) revealed the right coronary artery (RCA) was totally occluded by a huge thrombus. We performed thrombus aspiration followed by administration of antithrombotic drugs intracoronary to restore the blood flow. The following result was TIMI-III flow with thrombus grade III. Second angiography revealed an almost complete resolution of thrombus with underlying severe stenosis in mid-RCA. We successfully placed a Drug Eluting Stent (DES) with TIMI-III flow. **Case-2.** A 54-year-old man was admitted with acute inferior wall STEMI. HS-Troponin I level was 1981.3 ng/L. CAG revealed the left circumflex artery (LCX) was severely occluded by huge thrombus grade III with TIMI-III flow. Second angiography revealed a significant reduction on thrombus burden with residual stenosis. We successfully placed DES in LCX with TIMI-III flow.There was evidence of suboptimal myocardial reperfusion in about one-third of patients who underwent primary PCI with immediate stenting. Secondary thrombosis and distal embolization have been proposed to explain the pathophysiology of this phenomenon. Deferred stenting has shown to reduce the thrombotic burden and minimizing the risk of no/slow-reflow phenomenon.
Conclusion: Deferred stenting strategy appears as a feasible alternative approach in patients undergoing primary PCI with a high intracoronary thrombus burden in order to reduce the risk of secondary thrombosis or embolization.

Keywords: Deferred Stenting, High Thrombus Burden, Primary Percutaneous Coronary Intervention, ST-Segment Elevation Myocardial Infarction.

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209. **Fever with Acute Dyspnea and Chest Pain in 11-Year-Old Girl, Cardiac or Non-Cardiac? A Coronary Artery Fistula Case Report**

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Background: Coronary artery fistula (CAF) is one of rare anomaly in which there is a connection between coronary artery and chambers of the heart, major thoracic vessels, or other coronary arteries, that bypass the myocardial capillary bed. CAF account for 0.002% of the 0.2-1.2% of all coronary anomalies' incidence, while the exact number remains elusive. The clinical presentation varies between dyspnea, angina, syncope to sudden cardiac death, whilst some remain asymptomatic.

Case Presentation: An 11-year-old girl presented to the emergency room with a chief complaint of dyspnea and fever, alongside severe fatigue and exertional pain in the chest radiating through the left shoulder blade. Twelve-lead ECG shown a likelihood of an ischemia in anterior region while pulmonary congestion and a slight cardiomegaly seen on chest plain radiography. The patient underwent series of laboratory testing with some indication of an acute inflammation with no obvious origin. The two-dimensional echocardiography shows continuous turbulent flow in aortic short axis view, in which jet flows between aortic and main pulmonary artery, raise suspicion of a coronary artery fistula that had been confirmed by invasive coronary angiography. In this patient, the CAF originates from distal left main coronary artery and terminates into main pulmonary artery. The goal of our treatment was to improve symptom of the patient using pharmacological agents then refer her to the national cardiovascular center for further assessment and definitive treatment.

Conclusion: CAF might be a rare case, nevertheless, the clinical importance of assessing the patient holistically remain the key aspect. This patient had a dyspnea and fever as inducing factor, yet extrapulmonary causes was the main culprit. This case should enhance the possibilities of extra pulmonary causes in children with acute dyspnea.

Keyword: Case report, Child, Chest pain, Coronary artery fistula

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210. **Culprit vessel-only Percutaneous Coronary Intervention to Treat Multivessel Coronary Artery Disease in Diabetes Mellitus Patient Presenting with ST-segment Elevation Myocardial Infarction: A Case Report**

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Background: Thereabouts one-half of ST-segment elevation myocardial infarction (STEMI) patients have multivessel (MV) coronary artery disease (CAD). Percutaneous Coronary Intervention (PCI) strategy options that can be made include culprit vessel-only (CVO) primary PCI with continued medical management, MV PCI at the time of primary PCI, or CVO primary PCI followed by gradual PCI noninfarct arteries.
Case Presentation: A 55-year-old male was admitted to emergency ward with typical chest pain and shortness of breath. He had a history of uncontrol hypertension and smoking for 15 years. Blood pressure was 212/131 mmHg and respiratory rate was 30/min. Cardiac enzyme are elevated on laboratory investigation. Electrocardiogram showed anteroseptal ST-segment elevation with right bundle branch block. Cardiomegaly is presented in thorax x-ray. Patient was referred to Murni Teguh Hospital and were conducted angiography. On angiography were presented 99% stenosis on left anterior descending artery (LAD) and 100% stenosis on both right coronary artery (RCA) and left circumflex artery (LCX), and furthermore primary PCI was done by cardiologist in the culprit lesion. European Society of Cardiology guidelines supported CVO intervention during index PCI unless the patient has a cardiogenic shock or highly unstable lesions and ongoing ischemia after successful culprit lesion PCI. This strategy seems to be even more beneficial in patients with 3-vessel CAD in whom early and late mortality is particularly high as well as in those with Diabetes Mellitus (DM), who carry an increased risk of early complications and late mortality compared with non-DM patients.
Conclusion: This report focused on MV CAD with STEMI that can be treated by CVO lesion PCI. It is more beneficial in patients with 3-vessel CAD and with Diabetes Mellitus (DM), who carry an increased risk compared with non-DM patients.

Keywords: Culprit Lesion, Multivessel Coronary Artery Disease, Percutaneous Coronary Intervention, ST-Segment Elevation

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211. **Young Female with Autolysis CAD1VD**

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[3]*Cardiologist, Sentra Medika Cisalak Hospital, Depok, Indonesia*

Background: Coronary artery disease (CAD) can occur bellow the age of 45 years, termed as young CAD, with a prevalence approximately 2% to 6%. ST elevation myocardial infarction (STEMI) as one of deadliest clinical manifestation of CAD requires immediate reperfusion of infarcted related artery (IRA) as the main target of therapy. Although rare, partial or total reperfusion can occur spontaneously prior to thrombolysis or percutaneous coronary intervention (PCI).
Case Presentation: We report the case of a young overweight female without medical history of hypertension, diabetes mellitus, hypercholesterolemia, premature CAD in her family, smoking, drug abuse, or hormonal therapy with acute anterior STEMI who experienced improvement in chest pain and ST segment resolution in her serial ECG before intervention. Her coronary angiography revealed 99% stenosis at proximal LAD. We presumed that the remaining 1% flow occurred because of autolysis in the thrombus. The autolysis mechanism may occur due to increased endogenous fibrinolytic system or intrinsic pharmacological response to initial aspirin and heparin therapy.
Conclusion: Partial or total spontaneous reperfusion can occur in STEMI. Further investigation is needed to establish factors contributing autolysis.

Keywords: Acute Coronary Syndrome, Percutaneous Coronary Intervention, Coronary Artery Disease, Autolysis, Atherosclerosis

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212. **Dilated Cardiomyopathy in Advanced Heart Failure: A Case Report**

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Background: Cardiomyopathy is impaired structural and functional of the heart muscle. Dilated cardiomyopathy is the commonest type that contributes to the third common cause of heart failure. Dilated cardiomyopathy is a progressive disease characterized by enlargement and dilatation of the heart ventricle with low left ventricular ejection fraction. This disease may be underdiagnosed because many patients are asymptomatic. After compensatory mechanisms, the patients have symptoms that lead to heart failure and limit daily activity.

Case Presentation: 45-year-old male came to the emergency unit with the difficulty of breathing for three days before admitted. History taking and examination exhibited congestion without hypoperfusion. Supportive findings showed a downward apex, low left ventricular ejection fraction (21%), moderate tricuspid regurgitation, and moderate mitral regurgitation. The body mass index calculated to obese (30.73 kg/m^2) with a waist circumference of 95 cm. His father died because of a heart attack at old age. The history of hypertension, diabetes, dyslipidemia, heart attack, and severe physiological stress was denied. He was diagnosed as acute decompensated heart failure in advanced heart failure due to dilated cardiomyopathy. He had already consumed multiple combined drugs for advanced heart failure before admitted.

Conclusion :Dilated cardiomyopathy is difficult to recognize because of the asymptomatic state in some persons. Identifying risk factors and possible causes of heart failure play an important role. Dilated cardiomyopathy should be considered if other possible causes were excluded. The management of the disease is still challenging because of the progressivity.

Keywords: dilated cardiomyopathy, advanced heart failure, obesity, family history

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213. **Recovered Ejection Fraction After Management Tachycardia-Indunced Cardiomyopathy: A Case Report**

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Background: Tachycardia-Induced Cardiomyopathy (TIC) is ventricular dysfunction secondary to sustained tachyarrhythmia, with dilated cardiomyopathy as most common presentation. TIC is diagnosed after exclusion of other causes of cardiomyopathy in previously normal ejection fraction (EF) or a degree of ventricular dysfunction due to other comorbidities, in absence of left ventricular hypertrophy. TIC is generally a reversible cardiomyopathy if the causative tachycardia can be treated effectively, either with medications, surgery or catheter ablation.
Case Presentation: A 70-year-old female was admitted to emergency room Pandan Arang Hospital, Boyolali with palpitation, lightheadedness, fatigue, and nausea two days prior admission. Patient had history of untreated recurrent palpitations. No remarkable finding from physical examination, except rapid heart rate. Electrocardiography (ECG) showed supraventricular tachycardia with heart rate of 216 beats per minutes. Laboratory test showed no troponin level elevation. Because, there is no adenosine as first line treatment, then we administered intravenous Diltiazem. The ECG converted into sinus rhythm. Echocardiography showed dilated left ventricle with low ejection fraction (EF 30%), indicated cardiomyopathy. The patient diagnosed as Tachycardia-Induced Cardiomyopathy. During five days of hospitalization, beta-blocker (carvedilol) and ACE inhibitor (perindopril) were optimized, and patient was in stable hemodynamic without recurrent tachycardia episode. Evaluation in the 7 days after discharged, ECG showed sinus rhythm with echocardiography showed recovered ejection fraction (EF >40%).
Conclusion: We present one case of Tachycardia-Induced Cardiomyopathy in our hospital. TIC should be suspected in patient with tachycardia when other cause of cardiomyopathy excluded. Management of heart rate (rhythm and rate control) in patient with low ejection fraction is important, since it leads to recovered myocardial function.

Keywords: *Tachycardia-Induced Cardyomyopathy, Supraventricular Tachycardia, Tachycardia*

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214. Management of Supraventricular Tachycardia (SVT) with Abberation in Beta-Thalassemia Major : A Case Report

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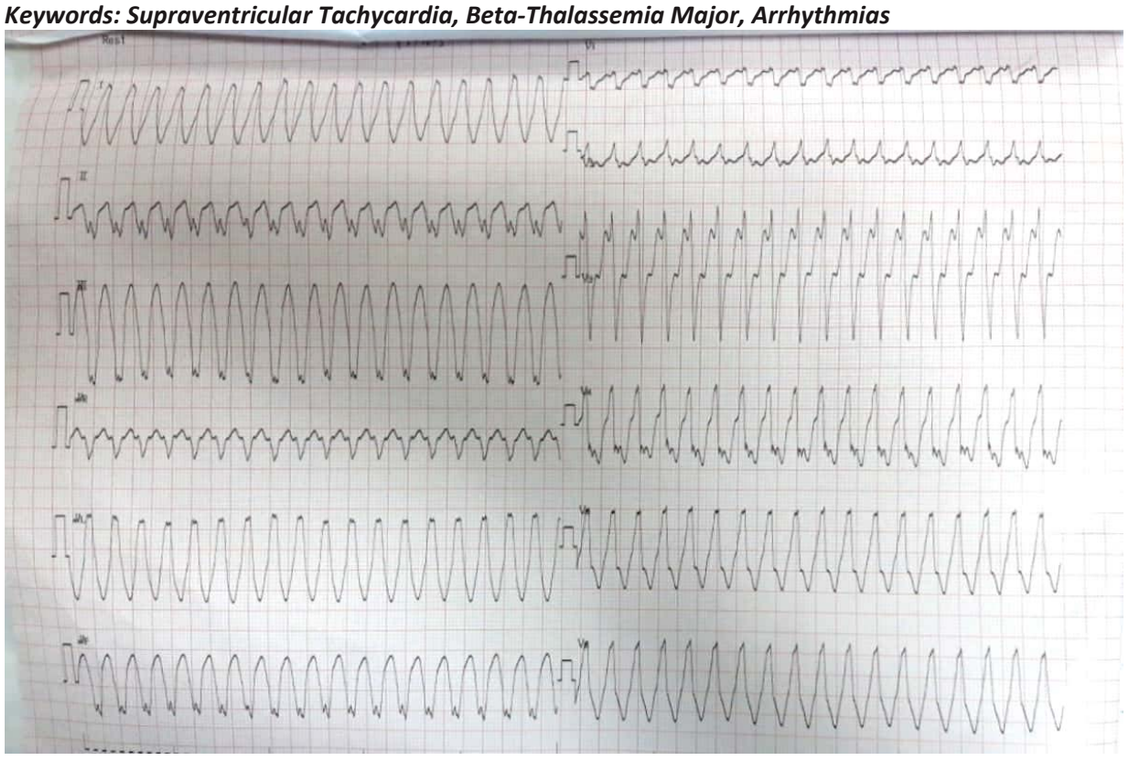
Background: Beta-Thalassemia major (*β*-TM) are autosomal recessive disease, characterized by absent synthesis of beta globin chains of the hemoglobin tetramer resulting severe chronic haemolytic anemia. Cardiac complications is serious condition that increases risk of mortality in *β*-TM patients. The Primary factor of cardiac damage in *β*-TM is myocardial siderosis due to repetitive blood transfusions, haemolysis, and increased intestinal absorption. Arrhythmias or sudden cardiac death may be present without any sign of cardiac disease.

Case Presentation: A 26-year-old male presented with palpitation and chest discomfort. Patient was diagnosed with *β*-TM 26 years ago and has routine blood transfusion. Patient remained awake, alert, and stable hemodynamically. On examination, the blood pressure was 90/60 mmHg, pulse 178 bpm regular, respiratory rate 24 bpm, O^2 saturation 98%. Electrocardiogram (ECG) showed SVT with abberation and QRS rate was 167 bpm. Laboratory examination was in normal limit. Patient was loaded with intravenous amiodarone 150mg. ECG return to sinus rhythm with bundle branch block and QRS rate was 85 bpm. The therapy switched to oral amiodarone and bisoprolol. Then patient discharged.

Arrhythmias in β-TM patient may occur unexpectedly. This can be a sign that there have been complications to the heart due to myocardial siderosis. Routine ECG and 24 hour ECG Holter play an important role in detecting heart rhythm abnormalities early on. Further evaluation by echocardiography, cardiac magnetic resonance is needed to assess myocardial iron overload.

Conclusion: Arrhythmia in β-TM patient is a rare, but serious condition that can be life threatening. Early detection of cardiac electrical problems in this case with various modalities is needed.

Keywords: Supraventricular Tachycardia, Beta-Thalassemia Major, Arrhythmias



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215. Case Report: Challenges in Diagnose Wide QRS Complex Tachycardia on 30 Years Old Patient with a History of Rheumatic Heart Disease in the Emergency Room

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Background: When facing a wide QRS Complex tachycardia, clinician must decide whether the rhythm is of supraventricular origin with aberrant conduction or of ventricular origin. Accurate discrimination of VT and SWCT is incredibly vital as it impacts immediate patient care decisions, clinical workup and management strategies.

Case Presentation: A 30 years old male had a history of untreated Rheumatic Heart Disease since 2000 demonstrated shortness of breath and palpitation as a typical signs and symptoms of tachycardia. Anemia and hyperthyroid was excluded. The Initial electrocardiogram (ECG) presented a wide QRS complex tachycardia with ventricular rate 274 beats/min. A wide complex tachycardia may represent either VT (80%) or a supraventricular rhythm with aberrant conduction (20%). The diagnosis of wide complex tachycardia should be VT until assured otherwise. According to Brugada and Vereckei algorithm this patient's Wide QRS complex represent a Supraventricular Tachycardia. Because of the haemodynamically unstable condition, this patient was immediately treated by 50 J electrical cardioversion then the rhythm reverts to sinus tachycardia with 112 beats/min. The termination of tachycardia with 50 Joule electrical cardioversion strongly suggests SVT. Afterwards, 2D echocardiography was performed then revealed the anterior and posterior mitral leaflet prolapse with stiffening and thickening of anterior mitral leaflet that magnify the history of rheumatic heart disease. The echocardiography also enucleates the existence of severe mitral and aortic regurgitation with left ventricular diastolic dysfunction and mild pulmonary hypertension.

Conclusion: Efficiently diagnosing wide complex QRS with Brugada and Vereckei algorithm is key in order to prevent misdiagnosis and mismanagement that can be harmful for patient's survival in the emergency room.

Keywords: Arrhythmia, Rheumatic Heart, Brugada, Vereckei

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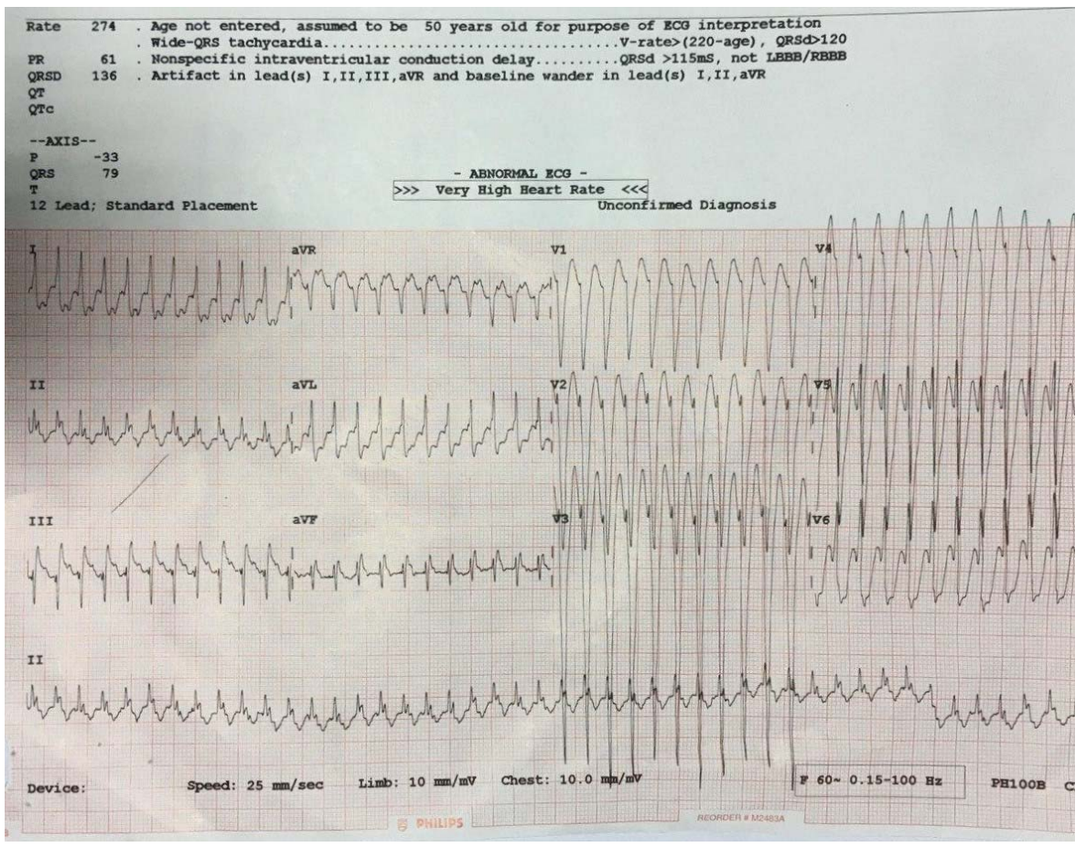

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216. A Successful Fibrinolytic Therapy In Acute Coronary Syndrome Patient With ST-Elevation Myocardial Infarction And Hyperglycemia, In Non-PCI Center Hospital: A Case Report

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Background: Acute coronary syndrome (ACS) is frequent presenting with hyperglycemia. The preferred reperfusion strategy of ACS with ST-elevation myocardial infarction is Primary PCI. However starting fibrinolysis is considered, especially in a non-PCI center hospital and located in areas far from PCI center.
Case Illustration and Discussion :A 48 years-old female came to the emergency room due to an atypical chest pain 1 hour prior to admission. ECG showed ST-elevation on II, III, aVF. Blood glucose level is 557 mg/dL. CKMB 208 u/L, Troponin I >10 ng/mL. A loading of dual antipletelet, streptokinase 1.5 million units in 100 cc normal saline, rapid-acting insulin 2 units/hour. After 2 hours observation, ST segments returned to baseline and the symptomps alleviated.
Fibrinolytic is reperfusion strategy where primary PCI cannot be offered in a timely manner, and recommended within 12 hours of symptom onset if primary PCI cannot be performed within 120 min from STEMI diagnosis and there are no contraindications. Hyperglycemia in ACS patient is common, and it is a powerful predictor of survival and increased risk of in-hospital complications in patients both with and without DM. In the acute phase, it is reasonable to manage hyperglycaemia (≤11.0 mmol/L or ≤200 mg/dL) but avoid hypoglycaemia (<5.0 mmol/L or <90 mg/dL).
Conclusion
:Fibrinolytic reperfusion therapy is the best choice with an obvious observation. Blood glucose must be maintained ≤200 mg/dL to avoid high risk of mortality in ACS patient with hyperglycemia.

Keywords
Acute Coronary Syndrome, ST-elevation Myocardial Infarction, Hyperglycemia, Fibrinolytic, PCI.

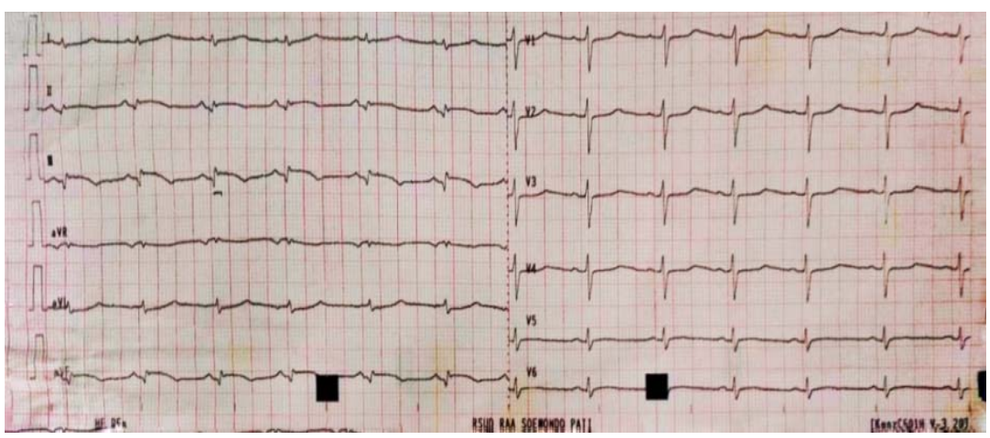

Figure 1. ECG Post Fibrinolytic

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217. Managing Atrial Fibrillation Patient Presenting With Hypokalemia In Type-D Hospital. Is It Hypokalemia-Induced Atrial Fibrillation Or There Was Another Factor?: A Case Report

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Background: Atrial Fibrillation (AF) is an arrhythmia that characterized by excitation of the atrium and the electrical signal that uncoordinated properly. There are causes of AF such as genetic predisposition, external stressors that remodel the atrium structure such as structural heart disease, electrolyte imbalance and hypertiroidism.
Case Illustration and Discussion: A 52 years old female came to the emergency room with complaints of palpitations 3 hours prior to admission. She has a history of heart failure (HF) and hypertension. The blood pressure is 130/90 mmHg, heart rate 146 bpm irregular. The ECG showed AF. The potassium levels is 3.0 mEq/L. Thorax rontgen showed cardiomegaly.
This patient consulted to cardiologist and hospitalized with a NaCl 9% following with intravenous KCl 25 mEq, oral digoxin 1x0.25 mg, bisoprolol 1x5mg. After three days, the potassium level corrected to 3.6 mEq/L, heart rate around 90 bpm, hemodinamically stable.
In hospital with no echocardiography tool we can diagnose AF from anamnesis, physical examination and electrocardiography. AF occurs in up to 15% of patients with hyperthyroidism and triiodothyronine (T_3) toxicosis compared to 4% of people in the general population. From the The Burch-Wartofsky Point Scale (BWPS) for the thyrotoxicosis diagnostic, this patient scoring result is 45, suggest that she had an impending or highly suggestive of thyroid storm. A research from Rotterdam Study prove that low potassium level were associated with a higher risk of atrial fibrillation. History of HF also associated with AF. Prevalence of AF in patients with HF ranges from 10-30%.
Conclusion:side from valvular disease, Atrial fibrillation could possibly caused from electrolyte imbalance, hypertiroidism and HF. A correction of potassium and rate control of atrial fibrillation is needed. Thyroid laboratory check must be performed, and also echocardiography for a possibly structural heart disease.

Keywords: Atrial Fibrillation, Hypokalemia, Hypertiroidism, Thyrotoxicosis, Heart Failure.

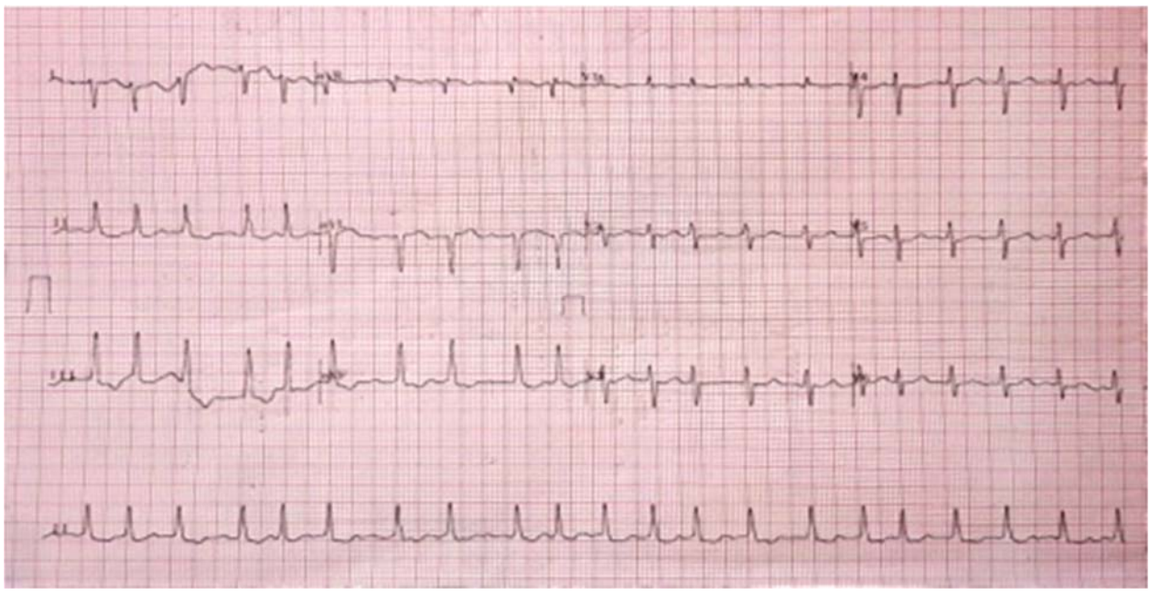

Figure 1. ECG on admission

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218. **Atrial Fibrillation in Rheumatic Mitral Valve Disease Patient with Congestive Heart Failure, is Rhythm Control Inferior to Rate Control?: a Case Report.**

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[2]General Practitioner, Faculty of Medicine University of Muhammadiyah Malang.

Introduction: Atrial fibrillation (AF) is a common complication of rheumatic mitral stenosis (MS). AF precipitates heart failure (HF), and vice versa. This case presents what treatment should be given to AF in MS patient with HF.
Case Illustration and Discussion:A 63 y.o. woman came to emergency room with complaints shortness of breath and palpitation 2 days prior to admission. She was diagnosed AF and Rheumatic MS anf Ejection Fraction (EF) 56% about 8 moths before. She has no history of hypertension. Blood pressure 140/100 mmHg with heart rate 184 bpm irregular , respiratory rate 22 breaths per minute, and oxygen saturation 97%. There are rhonchi bilateral and heart murmur from auscultation examination. Electrocardiography showed atrial fibrillation. Thorax rontgen showed cardiomegaly with pulmonary congestion. No abnormal laboratory test result. This patient given intravenous furosemide 40 mg then slow intravenous bolus digoxin 0,25 mg. After hours observation, the ecg showed AF with heart rate 90 bpm and symptoms alleviated.
Based on 2016 ESC Guideline, acute management for AF with congestive HF is to normalise fluid balance and do a rate control with initial target <110 bpm. β-blockers are preferred for rate control. The combination of a β-blocker and digoxin may be more effective. The same rate control acute management goes to AF and valvular heart disease, but cardioversion for rhythm control should be considered depending on duration of AF and the hemodinamic status. Amiodarone has the greatest efficacy with regard to maintenance of sinus rhythm.
Conclusion:There is no inferior or superior in managing AF in MS with congestive HF, but it all depends on the patient hemodynamic presentation and duration of AF.

Keyword

Atrial Fibrillation, Mitral Stenosis, Congestive Heart Failure, Rate Control, Rhythm Control.

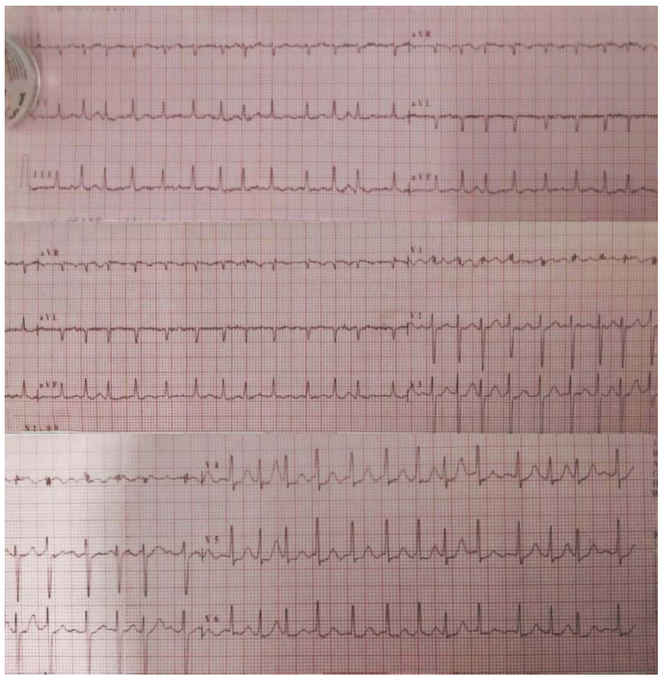
figure 1. Ecg on admission

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219. **A Concentric Left Ventricular Hypertrophy Probably Heart Failure Preserved Ejection Fraction (HFpEF) in Army Soldier Patient: Being Young and Physically Exercise Active are Not A Guarantee.**

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Background: Heart failure, with or without preserved ejection fraction, usually considered as an elderly disease. Most HF-studies are based on older adults. Little is known about the aetiology, incidence, and trends in HF among younger patients.
Case Illustration and Discussion: 20 y.o male soldier present to doctor with complaint shortness of breath while do moderate physical exertion and lower extrimities edema. Blood pressure 110/70 mmHg, heart rate 86 bpm, repiratory rate 22. He has no history of hypertension and medication. The patient referred to cardiologist due to echocardiography and other examination. The echocardiography conclude mild concentric Left Ventricle Hypertrophy (LVH), Ejection Fraction (EF) 61% with Impaired Relaxation of Left Ventricle (LV) Diastolic Dysfunction, any other function are normal. Thorax rontgen showed slight cardiomegaly with cardiothoracic ratio 54%. The electrocardiogram showed increased T wave in precordial leads.NYHA class II describes there are symptomatic HF with moderate exertion. ACC/AHA stage B also describe there are current symptomps with structural heart disease. Based on ESC Guideline for Heart Failure 2016, the patient symptomps and EF 61% could possibly diagnosed with HFpEF, but lack of some detailed diagnostic key points such a level of natriuretic peptides, Pulmonary Artery Systolic Pressure value, also Mitral Annular Early Diastolic Velocity (E/e') ratio.
Conclusion:This case shows that a probably HFpEF not only a disease of elderly patient but also affects the younger. There is still more study have to do for HFpEF case in young adult.
Keywords: Left Ventricle Hypertrophy, Heart Failure preserved Ejection Fraction, Young.

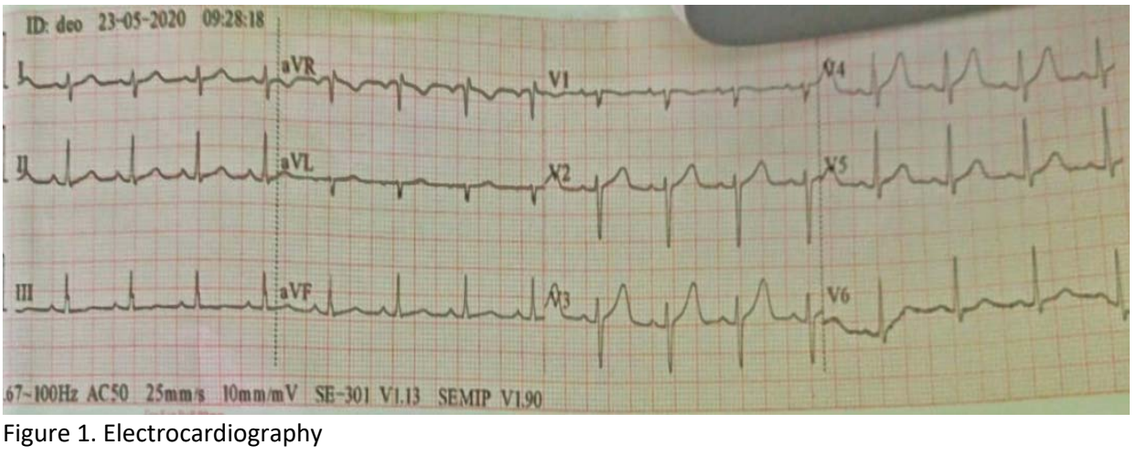

Figure 1. Electrocardiography

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220. **Balloon-Assisted Tracking to Overcome Radial Artery Spasm and Dissection during Percutaneous Coronary Intervention : A Case Series**

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Background: In Acute Coronary Syndromes (ACS) patient undergoing Percutaneous Coronary Intervention (PCI), radial access is preferred over femoral access and is associated with lower vascular complication rates. Radial artery spasm or dissection can occur as the challenges of radial approach, causing failure of radial access and switching to femoral access. In this case series, we describe the Balloon-Assisted Tracking (BAT) technique to overcome radial artery spasm and dissection during PCI.
Case Illustration and Discussion: We present 3 cases of ACS patient undergoing PCI. Right radial access was chosen as the approach in all cases. During advancement of the guide catheter, spasm of radial artery was encountered in 1 case and causing failure of catheter advancement. BAT was performed successfully in order to cross the spastic segment. In another 2 cases, radial artery dissection occurred and contrast extravasation was documented on angiography. BAT was performed and the catheter was then advanced without resistance. Once the guide catheter was withdrawn, an angiography revealed completely sealed lesion without contrast extravasation. No hematoma was observed during hospitalization and the patients were discharged without complication.
The BAT technique can overcome spasm of radial access during PCI, allowing successful advancement of the guide catheter. The BAT technique also manages the dissection by sealing the injured radial artery. Using BAT technique avoid switching from radial to femoral access, therefore decrease risk of vascular complications related to femoral access and avoid further delay of delivering reperfusion therapy.
Conclusion: BAT can be used during PCI when a radial artery spasm or dissection occurred as an alternative to crossing over femoral access, avoiding additional femoral puncture and delay of reperfusion therapy while sealing the dissected artery.
Keywords: Balloon Assisted Tracking, Percutaneous Coronary Intervention, Radial Artery Dissection, Radial Artery Spasm

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221. **Fibrinolytic as a reperfusion strategy in STEMI patient: A Case Report**

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Background

Worldwide, ischemic heart disease is the single most common cause of death, and its frequency is increasing. [1] STEMI is a form of ischemic heart disease with the highest mortality rate of up to 81% in KILLIP class IV. [1,2] The Mortality in STEMI patients is influenced by many factors, among them advanced age, KILLIP class, delay to treatment, and treatment strategy.[3,4,5]

In STEMI patients following cardiac arrest, primary PCI is the strategy of choice. However, Fibrinolytic therapy is a vital reperfusion strategy in settings where primary PCI cannot be performed and prevents 30 early death per 1000 patients treated within 6 hours after symptom onset.[1]

Case Illustration

A 48 years old man came to the emergency room with typical chest pain for 2 hours, after he had an exercise. His risk factor was uncontrolled hypertension, dyslipidemia, and smoking. On admission he was fully conscious, ECG showed atrial fibrillation with ST-segment elevation in the infero-anterolateral and posterior wall. Not long after the ECG was taken, he was unconscious, and the ECG's monitor showed VF we immediately start CPR, the patient was given defibrillation of 360 joules, and the ECG converted to sinus rhythm. His blood pressure then was 60/30 mmHg. His extremity was cold with bilateral rales, so the patient was diagnosed with KILLIP IV STEMI.

We administered dual antiplatelet and supported the patient with dobutamine 5mcg/kg/m, which we quickly up titrate to 10 mcg/kg/m to stabilize the blood pressure to 90/60 mmHg. Diuretic was then given to treat acute heart failure, and we start fibrinolytic with streptokinase 1.500.000 U within 30 minutes. During the administration of fibrinolytic, the blood pressure further decreases to 70/50 mmHg, norepinephrine 0.1 mcg/kg/minute was given to stabilize the blood pressure, we do not halt the fibrinolytic administration. After 60 minutes, ECG showed the evolution of ST-segment elevation and reduction of pain. Then the patient was referred to PCI Center for further treatment.

In this case, there is delay time to refer the patient to the PCI center because of the hemodynamic instability and the complication such as arrhythmias, acute heart failure, and cardiogenic shock. We need to control the complication with defibrillation, inotropic support, treat the heart failure, and also resolve the leading cause of it all through immediate reperfusion through fibrinolytic therapy. Although the administration of fibrinolytic in such conditions is risky, it is also the patient only hope to survive this disastrous acute MI.

In this patient the successful reperfusion therapy showed by a decrease of more than 50% of ST-segment elevation, almost immediately after that everything improves. Chest pain and dyspnea disappear, acute heart failure resolves, blood pressure stabilized, and we can quickly wean the patient from the inotropes and diuretics.

Conclusion: The goal of treatment in STEMI patients with ≤12 hours duration of onset is reperfusion strategy, either primary PCI or fibrinolytic therapy. In a non-PCI-able hospital, if appropriate PCI strategy cannot be performed within 120 minutes, fibrinolytic therapy is recommended within 12 hours of symptom onset in patients without contraindications to decrease mortality and improve the outcome.

Keyword : *Fibrinolytics, STEMI, Ventricular Fibrilation*

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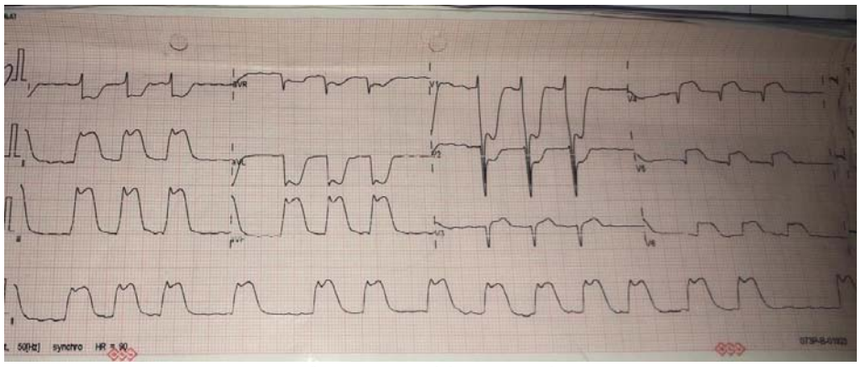

FIGURE 1. ECG of 48 years old man with ongoing STEMI

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222. **Type-2 Myocardial Infarction, Knowing your Patient: Case Series**

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Background: Myocardial infarction can occur from imbalances myocardial oxygen supply and demand. It can be secondary or alterations in the absence of acute atherothrombosis. There must be clinical evidence to make the diagnosis and require individualized care of these patients.

Case Illustration: Case 1. A 42 years old man came to our ER with chief complaint typical chest pain while sleeping with VAS 8/10. He has history of CML in the last 6 years. His vital sign was normal. Hb was 7,50 g/dL, HScTn was 31 ng/L. ECG showed ST elevation in V1-3. Patient was observed in CVCU and had PRC transfusion 500cc/day until Hb level reached 10 mg/dL. After Hb level was 10 mg/dL, chest pain was disappeared and ST elevation returned to isoelectric baseline.Case 2. A 56 years old with complaint of typical chest pain for 4 hours before admission. His vital sign was normal. ECG showed ST elevation in aVR, ST depression in II, III, aVF and V3-V6. Blood laboratory resulted Hb 3,3 g/dL, cTn 0,10 ng/L. Patient had blood transfusion until Hb reached 9 g/dl. Patient complaints were diminished and ECG changes returned to normal ECG. There are heterogeneous pathophysiological processes may lead to ischemic cardiomyocyte injury other than coronary atherothrombosis, including imbalance oxygen supply and demand, which are called type 2 myocardial infarction. T2MIs are triggered by noncoronary aetiologies that reduce oxygen delivery and/or increase oxygen demand. Severe anemia, due to oxygen decreased lead to myocardial cell death with symptoms, ECG changes and release of cardiac troponin. Initial strategy for these cases were conservative

Conclusion: T2MI is frequent, and has significant proportion of ECG changes and cTn increases in clinical practice due to heterogenous pathophysiology. Clinical assessment of individualized approaches to diagnosis until treatment are needed.

Keywords: Type-2 Myocardial Infarction, Anemia

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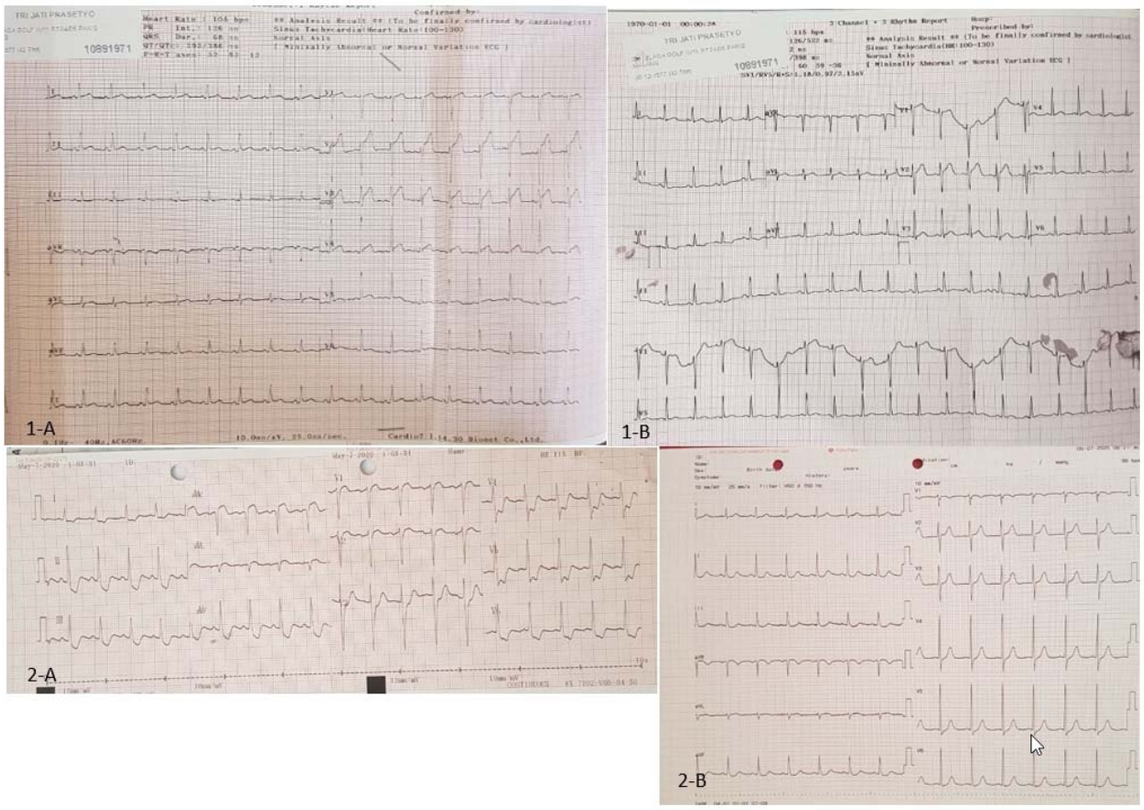

Figure 1. 1-A Showed ECG case 1 at arrival in emergency room; 1-B showed ECG after PRC transfusion reached Hb level 10 g/dL; 2-A showed ECG case 2 at arrival in emergency room; 2-b showed ECG after trensfusion reached hb level 9 g/dL

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223. **Congenital Atrioventricular Block Detected By Fetal Echocardiography in Suspected Systemic Lupus Erythematosus During Pregnancy: A Rare Case Report**

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[2]Harapan Kita Mother and Children Hospital, Jakarta, Indonesia

Background: Congenital atrioventricular block (CAVB) is a a rare and gradually progressing disease, starting during a critical period in mid-gestation with a less abnormal atrioventricular conduction before progressing to a complete irreversible block. CAVB which associated with maternal connective tissue disorder such as systemic lupus erythematosus (SLE), occur because antibodies cross the placenta and cause inflammatory injury of the fetal AV node.
Case Ilustration: A 32-year-old pregnant woman was referred to the hospital at 36 weeks of gestation, because of an abnormal fetal ultrasound study which revealed fetal bradycardia. Patient had a history of stillbirth baby at 35 weeks of gestation in her first pregnanc. Mother's physical examination and electrocardiogram were normal. Laboratory examination showed an increase in D-dimer and ANA titer, suspected with SLE. Fetal echocardiography showed normal cardiac-thorax ratio, the frequency of atrial contraction is more frequent than the frequency of ventricular contraction, ventricle fetal heart rate was 68 bpm and atrial fetal heart rate was 168 bpm. Then, pregnancy termination with cesarean delivery was planned at 37 weeks of gestation. Steroid was given intravenously. The baby was born in good condition. Baby's electrocardiogram showed complete atrioventricular block, atrial rate 115 bpm, and ventricular rate 65 bpm. Newborn echocardiography showed small patent ductus arteriosus with diameter 1.4 mm. During the observation in ICU, baby's condition was good with stable vital sign. Heart rate range between 75-85x bpm. We decide to observe the baby and managed the baby to achieve optimal body weight. Permanent pacemaker implantation was planned for the baby if ventricular rate <50 to 55 bpm.
Conclusion: We have been reported of pregnant women with suspected systemic lupus erythematosus and fetus with complete atrioventricular block which was detected by fetal echocardiography. Fetal echocardiograpic ultrasound techniques still remain the dominating modality for prenatal diagnosis of atrioventricular block. All women at risk with antibodies present, should be closely followed during the pregnancy with serial echocardiograms, specifically looking for the earliest signs of conduction system disease.

Keywords : *congenital atrioventricular block, fetal echocardiography, systemic lupus erythematosus*

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224. **Unstable Angina Pectoris in Patient with Hemophilia : Can We Proceed with The Use of Anticoagulant Therapy?**

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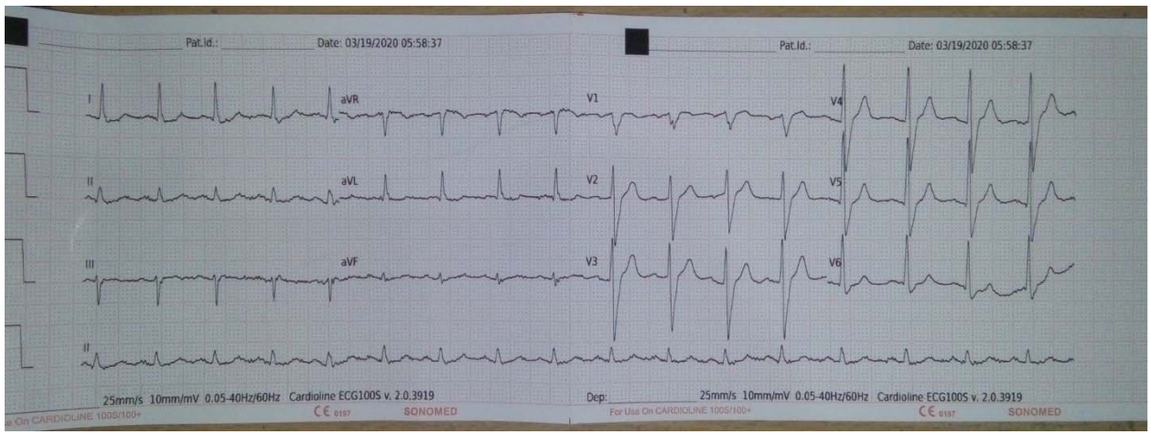
Introduction: Hemophilia is bleeding disorder caused by deficiency of coagulation factor VIII or IX. Those who suffer from hemophilia tend to bleed easily. Although they are relatively protected from thrombosis, both arterial and venous thromboses do occur on occasion[1,3]. It becomes challenging when the anticoagulant therapy comes to the need.

Case illustration and discussion: A 60-year-old man presented with the chief complain of typical chest pain associated with shortness of breath. It persisted for more than 6 hours. This patient had the history of NSTEMI with DES implantation, CHF and hemophilia. The examination showed no significant change on ECG and normal troponin I level (0.02 mg/L). Previous factor VIII level was >50%. This patient was diagnosed with unstable angina pectoris (UAP) and had UFH as anticoagulant therapy. Routine aPTT measurement was done to monitor the bleeding. However, there was no bleeding episode found during hospital care.Associated with anticoagulant therapy, bleeding risk should be considered before the administration of the drug[1]. The severity of bleeding in hemophilia is generally correlated with the clotting factor level[2]. Thus, it takes role in determining anticoagulant administration (Figure 1)[1]. In addition, drug's reversibility and half life should be considered. Anticoagulants that are more easily reversed and have shorter half life, such as UFH, are more preferable[1]. As in our patient, UFH was given safely after considering factor VIII level.

Conclusion: Anticoagulant therapy still can be used to treat UAP in patient with hemophilia. However, some considerations should be concerned.

Keywords : UAP, hemophilia, anticoagulant therapy



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225. **Tailoring Therapies of Paroxysmal Supraventricular Tachycardia Based on Pathophysiology: Case Reports**

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Background: Paroxysmal supraventricular tachycardia (PSVT) is a clinical syndrome of abrupt onset and termination of regular and rapid tachycardia which originating from above the level of the atrioventricular (AV) junction. Atrioventricular nodal re-entry tachycardia (AVNRT) and atrioventricular re-entry tachycardia (AVRT) were two of the most common types of PSVT.
Case Description: Case (1) A 41-year-old male presented to the ER with palpitation. He was tachycardic, other examination remained normal. Laboratory study and chest X-Ray were normal. The ECG revealed narrow QRS-complex tachycardia with 180 bpm rate and retrograde P in II, III, aVF shortly after QRS complex. After 6 hours of amiodarone pump, the ECG was converted into sinus rhythm. For maintenance therapy he was given bisoprolol 2,5mg and amiodarone 200mg.Case (2)A 9-year-old female presented to the ER with palpitation. Physical examination, chest x-ray, and laboratory study were normal, except she was tachycardic. The ECG revealed narrow QRS-complex tachycardia with 270 bpm rate and pseudo s in II, III, aVF just after QRS complex. She was given propranolol 5mg for acute treatment but the ECG still showed SVT. Then she was given amiodarone pump that convert the rhythm into sinus rhythm 1 hours later. Propranolol 15mg was given as maintenance therapy.
Conclusion: In principle, AVRT and AVNRT was resulting from re-entry mechanism in atrioventricular or AV node. Nodal blocker is the drug of choice for AVRT and AVNRT, but for recurrent cases careful combination with amiodarone is beneficial.
Keywords: Paroxysmal Supraventricular Tachycardia, AVRT, AVNRT, Amiodarone, Beta blocker

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226. Myocardial Infarction in Young Age; a case series

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Background: Acute myocardial infarction (AMI) in young age is a rare case in daily practice[1]. Although not within the expected age distributions of disease, it has a four times increase in incident of non-atherosclerotic MI[2].

Case illustration and discussion:Case-1: A 19 years-old female came to ER complaining chest pain, described as heavy pressure on her left chest radiating to the back, accompanied by vomiting, and diaphoretic. She had history of prolonged fever with tongue redness years ago, resolved without medical treatment. Physical examination was unremarkable. Electrocardiogram was unspecific for myocardial infarction and Troponin-I was normal. Some hours later, she suffered typical chest pain, serial electrocardiogram showed ST-segment elevation and elevated Troponin-I, suggested for anterior-STEMI. She was treated accordingly with dual antiplatelet and heparin and referred to undergo primary PCI. Total occlusion in left anterior descendent (LAD) coronary artery was found during coronary angiography, balloon angioplasty without stent placement was done subsequently. **Case-2:** A 21 years-old male came to ER due to typical ischemic chest pain. Physical examination was within normal limit. Electrocardiogram showed early repolarization while Troponin-I level were elevated, suggesting NSTEMI diagnosis. Dual antiplatelet and heparin were given. He was referred to undergo primary PCI. Despite no occlusion was found in coronary angiography, large coronary artery with slow flow was documented. No subsequent intervention was given. He was then threated with oral anticoagulant.Patients with MI Non-obstructive Coronary Artery (MINOCA) tend to be younger[3]. MINOCA should meet three diagnostic criteria: Definition of Acute MI, presence of non-obstructive coronary artery on angiography, and absence of another specific, clinically overt cause for acute presentation[3,4]. There are three etiologies of MINOCA: coronary, non-coronary, and extra-cardiac (due to mismatch between oxygen supply and demand) [3,4,5,6, 7].

Conclusion: Physician should maintain high degree of clinical suspicion of AMI in young age patient with typical chest pain, consider non-atherosclerotic MI as the etiology.

Keywords
Keywords
AMI, young age

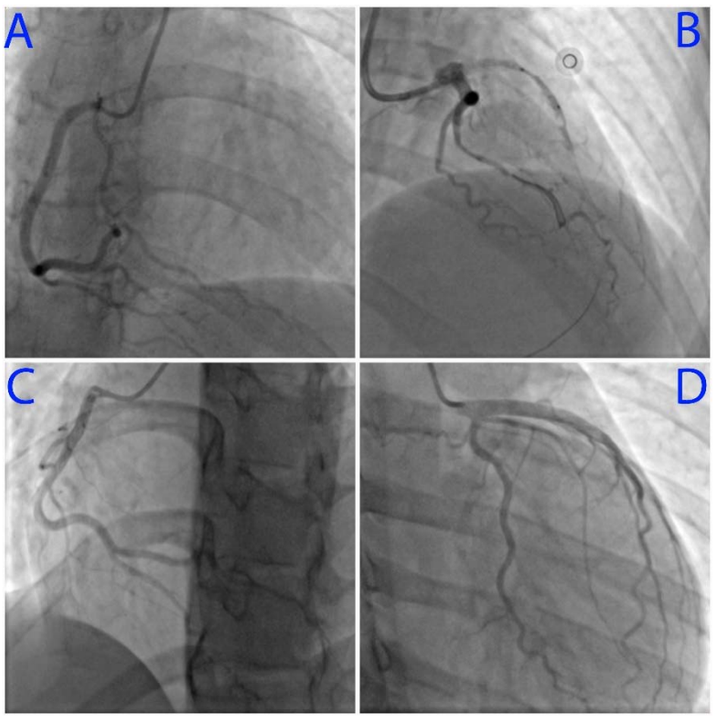

Fig. 1 – Case-1: Panel A demonstrating ectasia of RCA, Panel B demonstrating aneurysm in LMA, total occlusion in proximal LAD, and normal LCX. Case-2: Panel C demonstrating normal RCA, Panel D demonstrating normal LMA, LCX, and muscle bridging in mid LAD.

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227. **Pericardial Effusion Complicated by Cardiac Tamponade in A Postpartum Woman: A Case Report**

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Background: Cardiac tamponade is a life threatening condition caused by large or uncontrolled pericardial effusion due to cancer, infection, or idiopathic. On rare occasion it manifest in postpartum patient and its diagnosis could become a challenge.

Case Illustration and Discussion: A 35-year-old woman presented with dyspnea on exertion, abdominal discomfort and bilateral oedema of lower extremities since her labour a month ago. No history of complicated pregnancy and delivery, no prior cardiac disease and no history of cancer were known. Vital signs on admission were stable with a slight increase in blood pressure at 132/76, with increased jugular vein pressure, cardiomegaly, decreasing heart sound and ronchi on auscultation. There were also signs of ascites, hepatomegaly, and ulcers found on both nipples. Abdominal ultrasound described signs of hepatal metastatic. ECG showed low QRS voltage and x-ray revealed huge cardiomegaly. An echocardiogram confirmed the presence of a large pericardial effusion with cardiac tamponade. 750 cc of serohemorrhagic fluid was drained during pericardiocentesis and cytology examination revealed positive rivalta test with dominant mononuclear cells. Her condition improved for a day, but later she fell into cardiogenic shock and a second pericardiocentesis was planned, however she went through cardiac arrest. She died after 20 minutes of CPR. From the second pericardiocentesis, >1000cc of hemorraghic fluid was drained. Pericardial effusion in post partum patients rarely occurs. The prognosis is essentially related to the etiology that might be idiopathic, cancer and/or infection. It is important to identify specific etiology that requires targeted therapies as severe effusions may evolve towards cardiac tamponade that needs immediate attention.

Conclusion: Cardiac tamponade presenting in postpartum woman needs early recognition of symptoms and appropriate diagnostic workup to avoid life-threatening complications.

Keywords: *postpartum, cardiac tamponade, pericardial effusion*

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228. **Late Onset ST-elevation Myocardial Infarction in 29-year Old Man without Known Risk Factor**

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Background: Myocardial infarction is a manifestation of coronary heart disease that carries significant morbidity, sometimes even present as sudden death. It usually occurs in patient older than 45 years with several risk factors, such as dyslipidemia, obesity, smoking, etc. However, in rare occasion it could also affected young adults without known risk factor.
Case Illustration and Discussion: A 29-year-old man presented with chest pain and dyspnea since 3 days ago. He had no previous co-morbidity, no history of coronary artery disease in the family and he denied any history of smoking, drug abuse nor vigorous physical exercise. He had normal BMI at 22.5 and stable vital sign. There were no signs of heart failure. Electrocardiogram showed ST-segment elevation of V2-V5, and pathological Q waves in V1-V5. He also had normal chest x-ray and unremarkable blood tests with normal lipid profile. Percutaneous coronary intervention (PCI) was performed, revealing 90% stenosis in proximal left anterior descending artery (LAD). His symptoms were improved afterwards and soon he was discharged from hospital with minimal complications. Myocardial infarction rarely occurs in young adults with no known risk factors, however it needs to be considered as a possibility, especially in patient with chest pain and/or dyspnea as incorrect or delayed diagnosis and treatment could be deadly.
Conclusion: Myocardial infarction is a life threatening condition that needs immediate attention. It is important to recognize its signs and symptoms even in low risk population like young adults in order to reduce morbidity and mortality.
Keywords: *Myocardial infarction, young adult, risk factor.*

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229. AORTIC DISSECTION MIMICKING CORONARY ARTERIAL DISEASE - THE ROLE OF TRANS THORACAL ECHOCARDIOGRAPHY: A CASE REPORT

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Background: Aortic Dissection is commonly referred as a tear in the aortic intima which allows blood from the aortic lumen to penetrate into the new passage for blood, known as false lumen. This condition might lead to several problems, such as interrupt blood flow to other organs, affect other arteries, even block the blood flow from the aortic channel. Several factors may lead to aortic dissection such as hypertension, atherosclerosis, genetic disorder, congenital disease, and trauma. Symptoms of aortic dissection can be variable and often mimic coronary ischemic. The aim of this study is to report a stable aortic dissection case in Pandan Arang Hospital of Boyolali.
Case Illustration: A 63 years old woman came to cardiologist clinic with a chief complaint of chest pain at left chest radiating through her back since morning, she felt a sharp-like feeling stabbing through her chest. The patient had history of hypertension. On physical examination, there was early diastolic murmur on left sternal border grade 2/4, but there was no differential blood pressure on four extremities. We found sinus rhythm, and T-waves inversion on lead V1 and V2. Furthermore, we did echocardiography to the patient and found the Ejection Fraction only 30%, severe Aortic Valve Regurgitation, Regional Wall Motion Abnormalities, Dissection at Ascending Aortic, and Aorta Aneurism. Since the patient present with acute symptoms and there was no D-Dimer Test and Aortic CT-Scan at our hospital, we referred the patient to tertiary hospital for further examination.
Conclusion: We present a case of aortic dissection in our hospital. Due to non-specific symptoms of aortic dissection, misdiagnose may happened and resulted to poor prognosis. Therefore, proper detection and treatments are needed. By doing echocardiography on every patient which may have aortic dissection, proper treatment might be done earlier and improve the outcome of the patient.
Keywords: *Aortic Dissection, Coronary Arterial Disease, Trans Thoracal Echocardiography*

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230. **Peculiar Electrocardiographic Findings in Hemorrhagic Stroke Patient: is it Coincidence or Correlation ?**

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Background: Cerebrocardiac syndrome (CCS) is the pathology of a cerebral system followed by functional or structural changes of the heart. A few reports have found a correlation between acute hemorrhagic stroke and electrocardiographic (ECG) abnormalities with an average of 56% prevalence. Clinicians often make diagnostic pitfalls if they don't understand the underlying pathophysiology that follows CCS. Here we presented a case with multi-pattern ECG in a patient with acute hemorrhagic stroke.
Case Illustration and Discussion: A 43-year-old man with a history of uncontrolled hypertension developed a sudden decrease of consciousness and right limb weakness. The initial ECG findings were sinus rhythm, left ventricular hypertrophy, ST elevations in V2 to V3 and T-wave inversions laterally. Four hours later, ECG showed additionally T-wave inversion in V4-V6. A non-contrast computed tomography revealed signs of intracerebral haemorrhage in the basal ganglia and temporal lobe. Current evidence indicates that cerebrovascular accident induces autonomic dysfunction and neuroendocrine dysregulation that mimics cardiac injury. These may explain why do patients with hemorrhagic stroke could present with a variety of electrocardiographic changes, including arrhythmia, QT prolongation, T wave inversion and ST-segment-abnormalities. In our patient, there were ST-segment and T wave changes without cardiac symptoms. We did not evaluate further as we thought that it might not be cardiac-related. In contrast with preexisting ischemic cardiac disease, cerebrovascular related cardiac injury evolves and disappeared if there is an improvement following stroke treatment.
Conclusion: ECG interpretation is essential aspects in hemorrhagic stroke patients. Clinicians should be aware of the origin underlying ECG changes as to whether it was related to cerebrovascular accidents or concomitant myocardial ischemia. Further cardiac evaluations are needed if cardiac injury suspected.

Keywords: Cerebrocardiac Syndrome, Hemorrhagic Stroke, Multi-Pattern Electrocardiography

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231. An Art of Blood Pressure Control in Patient with Acute Kidney Injury : a Case Report

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Background: Hypertension is associated with acute kidney injury. Approximately 15% of patients with acute kidney injury have a history of hypertension in Indonesia. The mortality rate in patients with hypertension rises from 1% to 10% with concomitant acute kidney injury. The objective is to present a case with challenging hypertension therapy in acute kidney injury patient.

Case Illustration: A 32-year-old woman presented with acute appendicitis, hypertensive urgency and acute kidney injury. She had a history of hypertension treatment for five years with amlodipine. The evaluation demonstrated blood pressure elevated to 240/130 mm Hg. ECG and chest x-Ray indicated left ventricular hypertrophy and cardiomegaly, respectively. Laboratory test revealed increased creatinine (5,2 mg/dl), ureum (107mg/dl) and potassium (4,5mEq/L). The abdominal ultrasound indicated appendicitis, and no abnormality was found in renal parenchyma as well as renal artery stenosis. Initially, the patient was treated with β-blockers and RAA blockers, but after two days, there was an increase in potassium level (5,0mEq/L). Therefore we consider switching to calcium channel blockers, α_2 agonists and nitrate to achieve tight blood pressure control. Before discharge, there was a reduction in blood pressure (140/70) and creatinine level (3,5mg/dl). Our conservative approach was successful in improving kidney function recovery—The use of RAA blockers has been commonly used, although associated with increased potassium level. We used calcium channel blockers as an alternative without effect in potassium; also, we added α_2 agonist and vasodilator (hydralazine) to attain blood pressure target optimally. Since hydralazine was unavailable in our setting, we administered nitrate as a substitute. The treatment approach should differ based on various clinical situations.

Conclusion: Management of hypertension in acute kidney injury remains unsettled. Adequate control of blood pressure may improve renal function.

Keywords: Acute Kidney Injury, Hypertension Treatment, a Young Woman

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232. **What Should We Do in Severe Mitral Stenosis ?**
Percutaneous Mitral Commisurrotomy or Surgical Treatment

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Introduction: Symptomatic severe Mitral Stenosis (MS) is indicated to performed intervention management for a better outcome. Percutaneous Mitral Commisurrotomy (PMC) has shown a significant impact before the surgery procedure. The objective of this case is to discuss management in a patient with severe MS.
Case Presentation: A 43-year-old man presented to the hospital with dyspnoea and fatigue for several days. Childhood history of rheumatic disease denied. Diastolic murmur was heard by auscultation at the apex. Atrial Fibrillation with left axis deviation showed on electrocardiography examination. Chest radiography indicated cardiomegaly and congestion signs. Transthoracic echocardiography (TTE) revealed ejection fraction 46%, severe MS caused by rheumatic heart disease (mitral valve area ≤1.5cm2), MVA by planimetry 0,6 cm2, MVA 3D 0,8 cm2, mild regurgitation on the aorta, pulmonary, tricuspid valve and intermediate probability of pulmonary hypertension. Transoesophageal echocardiography (TOE) demonstrated thrombus occupying the whole left atrial appendage, small fresh thrombus at left atrium (LA), and Wilkins score was 8. The patient diagnosed with valvular heart disease with Framingham heart failure-class IV. Patient admitted to the high care unit, medicated by diuretic agents, beta-blockers, Mineralocorticoid receptor antagonists up-titrated to maximal dose, unfractionated heparin (UFH) and anticoagulation to prevent embolism and alleviate the thrombus. According to clinical findings, this patient diagnosed with valvular heart diseases stage D (symptomatic MS) caused by rheumatic aetiology. The thrombus at LA is the most contraindication to undergo PMC. Oral anticoagulation and UFH is recommended to the patient with new-onset of paroxysmal atrial fibrillation with thrombus. TOE examination after 3 months anticoagulant therapy should be done to evaluate the thrombus size. PMC can be reconsidered if LA thrombus shrunk.
Conclusion: PMC can be considered as bridging therapy in symptomatic severe MS without contraindications. Definitive surgical therapy must be performed if PMC fails.

Key Words: Severe Mitral Stenosis, Percutaneous Mitral Commisurrotomy, Valvular Heart Disease, Rhemuatic Heart Disease

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233. **A Case of Ventricular Tachycardia Associated with Hypokalemic Periodic Paralysis: Crossing Borders from Muscle to The Heart**

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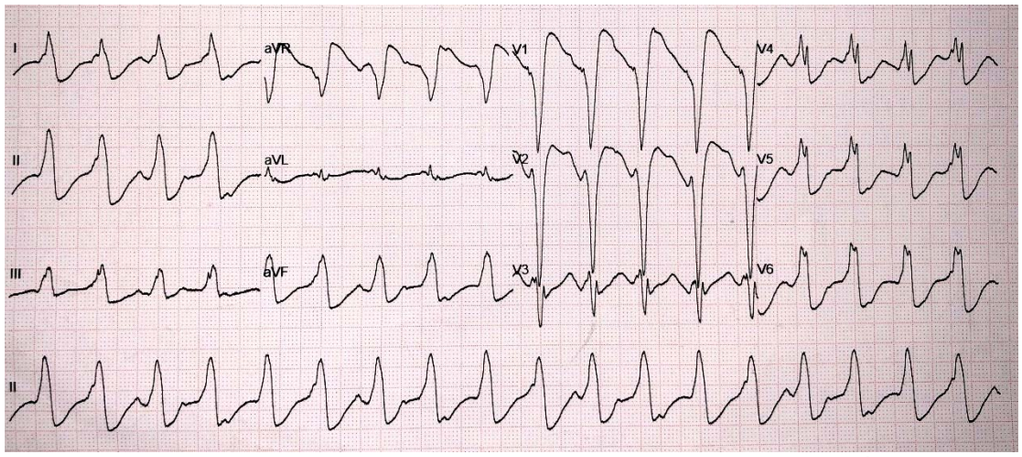
Background: Hypokalemic periodic paralysis (hypoPP) is a rare disorder characterized by episodic severe muscle weakness associated with hypokalemia. Ventricular arrhythmias are the most dangerous cardiovascular complications of hypoPP as it can lead to cardiac arrest in severe cases.
Case illustration: A 39-year-old female presented to emergency department with gradual weakness in upper and lower extremities since one day before admission. During the preceding year, she had been suffering four similar episodes. Vitals examination showed blood pressure of 140/90, heart rate of 110 beats/min. Patient was alert, her motor strength was 2/5 in all extremities, and deep tendon reflexes were absent. ECG showed slow ventricular tachycardia with RV origin and AV dissociation. Laboratory values revealed potassium of 1.9 mEq/L. A chest x-ray was within normal limits. A diagnosis of ventricular tachycardia associated with hypokalemic periodic paralysis was made. Intravenous potassium chloride (KCl) 50 mEq over 5 hours were administered with continuous cardiac monitoring. Patient paralysis was resolved and ECG converted to sinus rhythm. Her potassium serum level was up to 2.9 mEq/L. On the fourth day, serum potassium was normalized to 3.5 mEq/L and she was discharged from the hospital in stable condition with no further arrhythmias and paralysis. Hypokalemia causes inhibition of outward potassium currents, thus it prolongs repolarization and increases the slope of diastolic depolarization of pacemaker fibers. It is often associated with increased propensity for early after depolarization, which promotes triggered arrhythmias such as VT/VFs. Amiodarone should be avoided in case of severe hypokalemia because it can prolong repolarization, which may aggravate ventricular arrhythmia.
Conclusion: Acute management of the paralytic episode and ventricular arrhythmia in hypokalemia consists of the prompt administration of intravenous potassium chloride under cardiac monitoring. Continuous observation, serial electrocardiography, and serial potassium measurements are advised.
Keywords: ventricular tachycardia, hypokalemia, hypokalemic periodic paralysis, arrhythmia



ECG on presentation showed wide complex tachycardia at a rate of 110 beats/minute, with atrioventricular dissociation; demonstrating slow ventricular tachycardia of right ventricular (RV) origin. Serum K^+ level: 1.9 mEq/L

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234. **ST-Elevation Myocardial Infarction in An Elderly with Dextrocardia: A Challenging Case**

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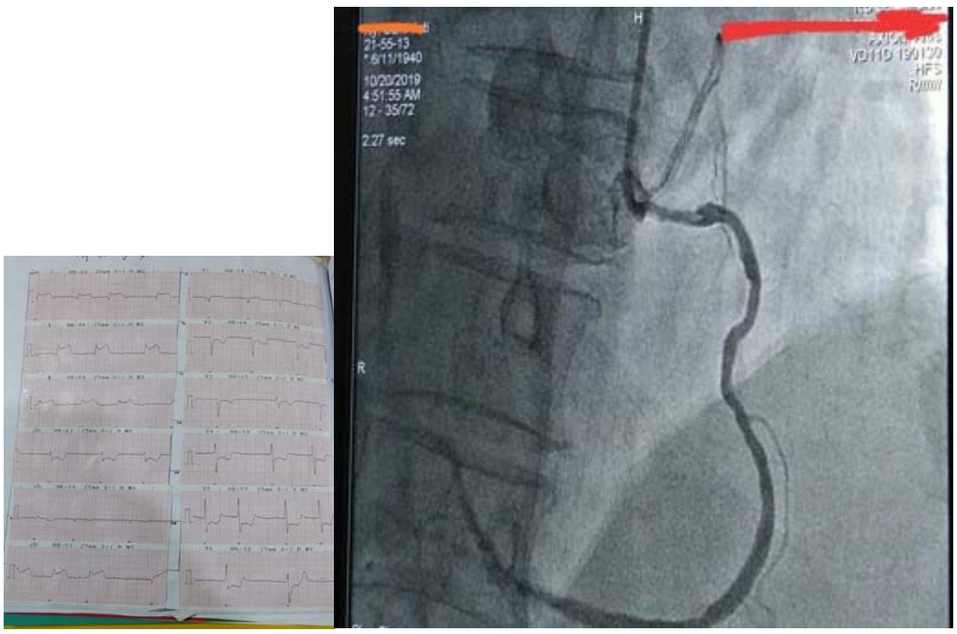
Background: Dextrocardia is a rare congenital disorder whereby the heart position is reversed from its normal position. Physicians may have difficulties in the diagnosis and treament of acute myocardial infarction in these patients. Hereby, we present a case of inferior STEMI in a patient with dextrocardia
Case Presentation: A 79-year-old woman presented to ER reporting right chest pain and epigastric pain of 4 hours duration. Medical history revealed hypertension and diabetes mellitus. BP was 110/80 mmHg, HR was 55-71 bpm, SpO2 99% on room air. Physical examination revealed right sided and irregularity of heart sound. A 12-lead ECG demonstrated slow AF rhythm; ST elevation in I, II, III, aVF; ST depression with inverted T in aVR, V2-V6; and poor R wave progression. Troponin I was elevated. Chest x-ray confirmed the dextrocardia. Dual antiplatelet, atorvastatin, nitrate, and heparin were given prior to cathlab activation. Primary PCI was performed via right transradial then moved to right transfemoral access because of difficulties in engaging RCA. Using JR 3.5/6Fr guiding with counterclockwise torque, primary PCI to osteal-proximal RCA was done and resulted in TIMI-3 flow. Subsequent echocardiography showed inferior hypokinetic wall motion with normal ejection fraction.
Discussion: STEMI in dextrocardia is a rare combination. The 12-lead ECG didn't show the typical features of dextrocardia, may be caused by the STEMI and AF rhythm. Performing coronary angiography and PCI in patients with dextrocardia can be a challenge. In this case, transradial engagement of RCA was unsuccessful. The double-inversion technique may help in coronary artery image acquisition.
Conclusion: Early Recognition of STEMI in dextrocardia is important for subsequent management. The corrected 12-lead ECG should be recorded. Coronary intervention is challenging for the operators due to variation in anatomic orientation of heart and great vessels.

Keyword: Myocardial, Infarction, Dextrocardia, PCI



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235. **A SUCCESSFUL RADIOFREQUENCY ABLATION IN PATIENT WITH IDIOPATHIC VENTRICULAR TACHYCARDIA**

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Background —— Management of idiopathic VT from RVOT includes pharmacotherapy and catheter ablation. For drug refractory cases, catheter ablation is recommended especially for patient with symptomatic idiopathic PVC or incessant VT.

Case Illustration & Discussion —— A 48 years old woman presented to emergency room with palpitation. The patient has history of palpitating for 20 seconds and it is getting elongated for two months and no history of syncope. The patient was referred for further examination with prior medication of bisoprolol 5 mg, amiodarone 200mg, and pottasium chloride 600mg. In private hospital, the patient underwent exercise test and VT was induced during exercise. There was no history of AMI. Physical examination and vital sign were normal . During observation in ER the patient suddenly had reguler WCT with rate of 150 beats/min with LBBB like morphology (qS in V1) and RAD. The ECG showed R to S interval >100msec, AV dissociation, and dominant S wave in V1. The ECG conclusion is VT with possible origin from RVOT. She was given by verapamil 4mg, bisoprolol 2.5mg, and pottasium chloride 600mg. The ECG converts to sinus rhythm with prolonged QTc interval and PVC bigeminy with qS pattern in V1. Morphology of PVC and VT are similar. EP study (utilizing 3D mapping system Ensite Precision 2 from St Jude) which was followed by catheter ablation was performed. Detailed mapping confirmed the origin of VT from low-RVOT anteroseptal.

Conclusion —— Majority of idiopathic VT could be managed by pharmacotherapy approach. However, some case might present with drug-refractory VT. In this case, catheter ablation using 3D mapping system has been proven safe and effective.

Keyword: RVOT;VT; Catheter Ablation

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236. **Never Overlook for a Horse When Surrounded by a Zebra**

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[2]*Cipto Mangunkusumo National Central General Hospital*

Background —— On this pandemic era patients presenting to the ER with flu like syndrome should undergo swab test. This protocol should not delay revascularization in high risk ACS patients.
Case Illustration & Diagnosis —— A 49 years old man presented to ER with severe epigastric pain since three days before admission and dyspnea one day before admission. Risk factors are controlled T2DM. There were no history of flu like syndrome or contact with confirmed COVID-19. Physical examination showed decreased lung sounds with minimal basal crackles and vital signs were normal. Laboratory findings were normal except increasing Troponin. ECG showed normal SR with evoluting anteroseptal MI. Thorax x-ray showed bilateral infiltrate. CT scan showed GGO with bilateral consolidation. He was categorized as suspect of COVID-19. First swab test result required four days with negative result. Echocardiography showed reduced EF (28.5%) with global hypokinesis and dilated LA and LV. STEMI with ADHF were added as working diagnosis and LMWH, DAPT, inotropes, diuretics were given. Second swab test required two days with negative result. Angiography showed stenosis 95% in LMS, 70 – 90% in LAD, LCX, and RCA. His haemodynamic worsened and required double inotropes. Urgent revascularization was conducted with four stent was put in culprit artery and he was intubated. The result was optimal and after two days the patient was extubated. Clinical and haemondynamic shown improvements. One month follow up showed improvement of FC and EF (30%).
Conclusion —— Late presentation of ACS patient with complication during COVID-19 is common. ADHF may mimic COVID-19 appearance which may delays treatment of ACS. Timely and meticulous evaluation is mandatory to prevent unnecessary delay. Late revascularization is beneficial for STEMI with complication.
Keywords: COVID-19; ACS; Revascularization

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237. **A Case report: Misdiagnosis of wheezing in hypertension adolescent**

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Background: Wheezing is one of frequent chief complaint in emergency room, oftenly, treat as airway obstruction. Another etiology of wheezing is cardiac origin. Treating wheezing automatically as airway obstruction can lead to misdiagnosis & mistreatment.
Case: A 13th years old boy, 82 kg, came to Pasar Minggu district hospital emergency room, with breathing difficulties since 4 days prior admission. Patient had productive cough, no fever or vomite. Patient had history of asthma. Physical examination showed normal neurological, heart & abdominal examination. Lung examination reveal wheezing in bilateral area. Blood pressure was 180/120 mmHg, heart rate 128x/minute, respiratory rate 32x/minute. Patient was diagnosed with acute exacerbation of intermitten asthma. Patient got asthma protocol. Patient transferred from ER to pediatric ward. On the ward, patient still had tachypnea, physical examination showed respiratory rate 38-40x/minute with intercostal retraction. Lung examination gave fine crackles in both lungs with no wheezing. Blood pressure was 170/120 mmHg. Chest x ray showed cardiomegaly, infiltrate in bilateral lung base. Laboratory examinaon showed leucocyte 11.300 /microlitre. Patient was reassessed and diagnose with pulmonary edema dd/ pneumonia, hypertensive crisis, decompensatio cordis NYHA II and obesity (ideal body weight 50kg). Patient transfered to PICU and got sublingual nifedipine 5 mg then 10 mg. Maintainance therapy with furosemide 2 x 40 mg iv, nifedipine 3 x 10 mg po, capropril 3 x 12,5 mg po and cefotaxime 3 x 1,250 mg iv. Patient have no wheezing or crackles in 3th day hospitalization and discharge in 6th day.
Conclusion: High index of suspicion of cardiac wheezing should be made if wheezing coincidence with hypertension & cardiomegaly to prevent inappropriate treatment.

Keywords
Wheezing, hypertension, cardiomegaly

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238. **Exercise-induced Torsade de Pointes; A Case Report**

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Introduction: Torsade de Pointes (TdP) is a fatal polymorphic ventricular tachycardia with a wide variety of etiology. We report a case of a patient with TdP during a treadmill test (TMT).
Case Illustration and Discussion: A 64-year-old female with controlled hypertension came for a routine visit. She complained about atypical chest pain. Electrocardiography was normal, and she underwent a TMT using Bruce protocol. A prolonged QT interval was found at rest. TMT was terminated during the second stage due to a transient TdP which lasting for nine seconds. Although she remained alert, she experienced mild palpitation without chest pain. She was admitted to the intensive care unit. Her blood test showed moderate hypokalemia (K: 2.8 mmol/L). Her corrected QT (QTc) was normal (QTc: 449 ms) following potassium supplementation. After stabilization, she was referred for coronary angiography, which revealed marked stenosis (90-95%) on the proximal-mid part of the right coronary artery. Thus, a non-drug eluting stent (3.00x29 mm) was placed. The ischemic response was negative at the follow-up TMT two weeks later. Ischemic burden and hypokalemia could induce TdP in our patient. Patient with ischemic burden has a higher risk for arrhythmias during a TMT owing to increase of spatial dispersion of repolarization (increase QTc, T peak-to-end (Tpe), and Tpe/QTc ratio). Likewise, hypokalemia might increase the potential of arrhythmias during TMT. However, a pre-TMT mild to moderate hypokalemia might remain safe.
Conclusion: Our case shows TdP during TMT. It might be caused by ischemic burden and patient's hypokalemic status. Close monitoring during TMT, electrolyte correction and immediate percutaneous coronary intervention prevents fatal consequences. Patient's baseline condition should always be a consideration to avoid a deadly TdP. Further diagnostic efforts are required to ensure the patient's cause of TdP for further management.

Keywords: Arrhythmias, Hypokalemia, Ischemia, Torsade de Pointes, Treadmill Test

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239.**Deadly Complicated Extensive Anterior ST Elevation Myocardial Infarction: a Case Report**

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Background: ST-Elevation Myocardial Infarction (STEMI) is a life-threatening condition with wide variety of complications. Extensive anterior STEMI commonly leads to some deleterious conditions, such as mechanical, arrhythmia, inflammatory, and ischemic complications.
Case Description:A 54-year-old male with uncontrolled diabetes presented to the ER with typical chest pain since 2 hours before. Vital signs and other examinations were normal. ECG was suggestive of extensive anterior STEMI along with positive troponin and hyperglycemia (373 mg/dl), and cardiomegaly. He was given loading dose dual antiplatelet, atorvastatin, nitroglycerin, followed by fibrinolytic therapy and enoxaparin. The fibrinolytic therapy was successful.

On the third day, the patient had pleuritic chest pain, irregular palpitations, hypotensive, and cold clammy skin. ECG was suggestive of pericarditis and rapid atrial fibrillation (Fig. 1). Laboratory tests showed leukocytosis (18200/µL) and decreased hemoglobin from 12.4 to 8.8 g/dl without any bleeding manifestations. Dressler syndrome with inferior posterior moderate pericardial effusion, hypokinetic in posterior, inferior, anterolateral region, and reduced EF (45%) was confirmed by echocardiography (Fig.2). Cardioversion was given, the rhythm then was converted to sinus. Norepinephrine and dobutamine was given to treat the cardiogenic shock, beside the Dressler was treated by ibuprofen. On the next day, the patient had refractory rapid AF, cardiogenic shock, and cardiac arrest. The patient was died after irresponsive with multiple cardioversions, CPR, and inotropes.

Dressler syndrome (DS) typically has similar clinical presentation with acute pericarditis and/or pericardial effusion that can worsen the condition. It is common for DS to occur in earlier onset in diabetics. Severe immunological inflammatory reaction in DS may decrease erythroblast response to erythropoietin that cause anemia. Infarction-associated pericarditis, inflammatory process induced by MI, and ventricular dysfunction induced atrial stretching increase incidence of new-onset AF. Extensive anterior STEMI and diabetics patient tend to have cardiogenic shock. Cardiogenic shock occurs only 8% of patients with STEMI, but has high mortality of 81%. In the setting of cardiogenic shock after successful fibrinolytic, emergency PCI is mandatory to be done.

Conclusion

Extensive anterior MI and diabetics patient is prone to have complications of MI, that suggest us to be more aware of the complications.

Keywords
STEMI, Dressler syndrome, atrial fibrillation, cardiogenic shock

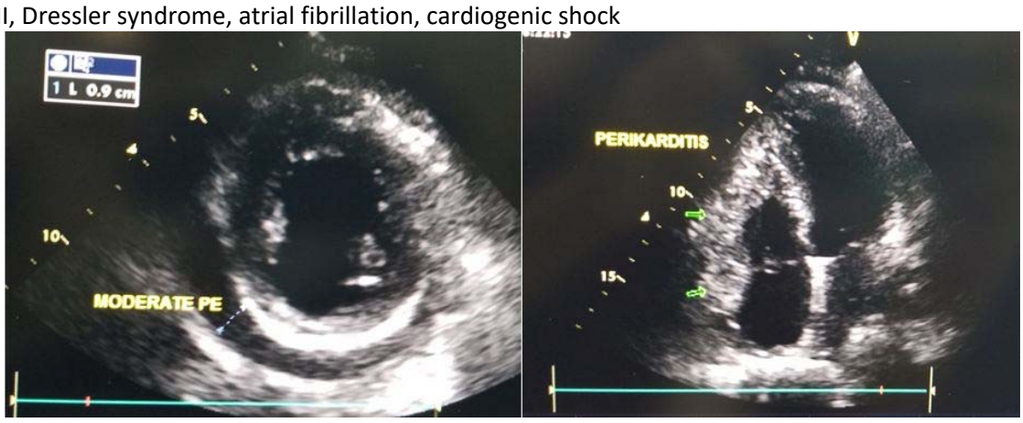

Fig. 2

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240. **Misuse of Antibiotics: Does it Related to High-level Aminoglycoside Resistance Infective Endocarditis Mortality?**

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Background. *Enterococcus faecalis* is the third common cause of infective endocarditis (IE) and despite optimal care, the mortality rate approaches 30% at 1 year. The misusing of antibiotics further increased the emergence and mortality of high-level aminoglycoside resistance (HLAR) *E. faecalis.* Intracranial hemorrhage (ICH) occurs rarely in IE, estimated 5% in total cases. Here, we present a serial case of HLAR-IE complicated with ICH. To the best of our knowledge, this is the first ever reported cases of *E. faecalis* IE complicated with extensive ICH.

Case Description. Three patients, age 19, 29, and 33-years old, referred to tertiary hospital with history of prolonged fever, lasted from 5-7 months prior. All patients are lethatgic, hypotensive and tachycardic. All patient had history of prior hospitalization in at least 2 different hospitals for more than 1 weeks and had 3 different antibiotics regimen during their stay. The chest x-rays revealed slightly enlarge heart configuration. Laboratory findings shows similar results of anemia, trombositopenia, hypokalemia and hyponatremia without leukocytosis. Transthoracic echocardiography demonstrated a varied vegetation, two patients in both in mitral leaflet with severe mitral regurgitation; one patient in posterior mitral leaflet and aortic valves with moderate mitral and aortic regurgitation. Blood culture all grew *E. faecalis* HLAR, therefore one patients were given vancomycin 600 miligrams twice daily and the other two given daptomycin 500 miligrams once daily. In the days of treatment, one patient suffered a severe headache, and loss consciousness soon after. Brain scan revealed extensive ICH with impending herniation. While the other two similarly showed sudden weakness and paralysis, the brain scan also showed varied state of ICH. Only one patient survived after urgent hemorrhage evacuation surgery, the others were passed away during preparation of surgery.

Conclusion. HLAR *E. faecalis* strain may be responsible for therapeutic failure and poor outcome. The ICHs that occurs may be attributed to ruptured mycotic aneurysm, which we confirmed with post-mortem autopsy in one patient but can also result from septic erosion of arterial wall with ruptured but without a well-delineated aneurysm.

Keywords infective endocarditis, enterococcus faecalis, intracranial hemorrhage.

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241. Transcatheter Ablation Of Premature Ventricular Contraction After Atrial Septal Occluder Device Closure : A Case Report

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Background :Although transcatheter closure of atrial septal defect (ASD) with the Atrial Septal Occluder (ASO) is preferably safe and feasible method, with low probability of developing atrial arrhythmias, there is sparsity of data regarding premature ventricular contractions (PVCs) in relation to ASD. In this report we would like to present a rare case of PVCs ablation one year after the implantation of ASO.

Case Illustration : A 43 years old woman, had undergone trancatheter ASO device closure of ASD, 1 year before hospital admission. Bursts of PVCs were noted on day 3-5 after the procedure, nevertheless, no significant symptom was reported between post-operative observation until recently. There was an increase of PVC burden from 26% to 33% within the last 4 months and the patient complained of dyspnoea, chest discomfort and palpitation while having light jogging, leading to blackout before eventually admitted to the emergency room. The electrocardiogram recorded bigeminy episode of PVCs. Catheter radiofrequency ablation successfully terminated the PVCs, with focal classic origin from the anteroseptal right ventricular outflow tract (RVOT) region.

Discussion :

The time course of RV remodeling after ASD closure seemed to be slower than the LV, with persistence of RV hypertrophy up to one year in a cohort study. PVCs are originally thought as benign or mild heart rhythm disturbance, however there is a potential of further cardiomyopathy development due to dyssynchrony. Based on this consideration and the ensuing symptoms, we performed catheter radiofrequency ablation to eliminate the ventricular arrhythmia carefully, in order not to displace the ASO device. The current guidelines recommended 6 months of antithrombotic therapy post ASO, when neoendothelialization process it thought to be complete and device fixation is stable.

Conclusion : Catheter ablation of right outflow tract PVCs can be accomplished safely in post ASO patients, particularly after six months after device implantation.

Keyword : Atrial Septal Defect, Atrial Septal Occluder, Premature Ventricular Contraction, Adult Congenital Heart Disease, Transcutaneous Device Closure.

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242 **Peripartum Cardiomyopathy: A Descriptive Analysis**

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Background: Peripartum cardiomyopathy (PPCM) is an uncommon dilated cardiomyopathy disease associated with pregnancy. Because the diagnostic challenge and high mortality rate without treatment, prompt investigation and treatment are keys to improving maternal survival.

Case Illustration and Discussion: We present 8 PPCM cases from our hospital within 2018-2019. All patients came with dyspneu as main symptom. 1 patient presented in last months of pregnancy, 6 patients within five months of delivery, and 1 patient at six months of delivery. Echocardiography was done for 5 patients, all revealed LVEF <50%. Chest X-ray was done for 6 patients, all revealed cardiomegaly and pulmonary oedema. They received diuretic, spironolactone, β-blocker, and ACE-inhibitors between 3-39 months. Echocardiography or chest x-ray serial revealed improvement defined as LVEF >50% and no cardiomegaly. PPCM is diagnosed when heart failure develops in the last month of pregnancy or within 5 months of delivery, LVEF < 45%, and no other cause for heart failure can be found. The evaluation needs complete medical history, physical examination, followed by diagnostic tools. Although echocardiography is the most useful imaging, chest X-ray might be used to support the diagnosis and as the follow up tool. Medications are used to stabilize heart function, improve blood flow, and reduce fluid overload. Studies suggested approximately 50% of patients recover normal heart function. Although early improvement (3-6 months) predicts a good outcome, some women will have slow, gradual improvement over years.

Conclusion: The main symptom of PPCM is dyspneu and usually develops in the last month of pregnancy or within 5 months of delivery. Echocardiography and chest X-ray are the most useful diagnostic tools. With optimal treatment, patient can return to normal heart function.

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