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Komentar

Is Left-Sided Infective Endocarditis Prone to Have Embolic Events?

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Infective endocarditis (IE) is an endovascular microbial infection of intracardiac structures facing the blood including of large intrathoracic vessels and of intracardiac foreign bodies. Diagnostic and therapeutic improvement have been recently achieved, however it is still associated with high mortality and embolic events.[1]

A lot of studies have been done in search of high risk IE patient, mainly focus on echocardiographic findings. Unfortunatelly, those studies give rise conflicting results. In multicenter prospective European study, 384 consecutive patient with definite IE according to Duke criteria were followed up to 1 year. Using transesophageal echocardiography (TEE), they found that vegetation length is a strong predictor of new embolic event and mortality. In multivariate analysis, vegetation length of > 15 mm has an adjusted relative risk of 1.8 95%CI 1.1 to 2.82, p = 0.02. Combining clinical, microbiological and echocardiography finding may identify high risk patient who will need aggressive therapy.[1]

Stuby by Fahmi et al[2] enrolled only limited number of definite IE patients and found that involvement of mitral valve, examined by transthoracal echocardiography (TTE), is a predictor of embolic events. As an initial study in this field among Indonesian subjects, we can compromize with the power of this study to conclude that left side valves involvement is a predictor of embolic event in IE patients. The conclusion it self is make sense in regard to the disease's pathophysiology. Distal complication of IE is differ whether endocarditis is right-sided or left-sided, and whether emboli from vegetation are septic or bland. Right-sided IE may be complicated with pulmonary artery embolism and infarcts, pneumonia and lung abscesses.Left-sided IE may be complicated with systemic embolism and cerebral, myocardial, kidney, splenic, intestinal infarct or abcesses.

Echocardiography has known key role in the diagnosis of IE and prediction of embolic risk. Moreover, echocardiography is also crucial for the prognostic assessment of patients with IE, for their follow-up under therapy, and during the prospective period. However, there are some concerned about echocardiographic examination in this study: (1) they only use TTE examination for definite IE patient, (2) no explanation of intra- and inter-observer variation in interpreting echocardiography results which rise a probability of single observation by single examinator. European Association of Echocardiography recomends to perform TEE in case of positive TEE results for IE, prosthetic valve or intracardiac device associated IE, poor TTE window, and negative TTE results but high clinical suspicion of IE.[3] TTE must be performed first in all cases, because it is a non-invasive technique that provides useful information for bath the diagnosis and the assessment of IE severity. TEE must also be

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performed in the majority of patients with suspected IE, because of its better image quality and better image quality and better sensitivity, particularly for the diagnosis of perivalvular involvement. The only situation in which TTE may be considered sufficient is in the case of good-quality negative TTE associated with low level of clinical suspicion of IE.[4] In a prospective multicenter study, Thuny et al[1] nicely described the importance of reviewing of echocardiographic examination results by at least 2 experienced echocardiographers who are blinded to patients' clinical status. It is an utmost important particularly when vegetation characteristics have to be analyzed. As the current study was done in National Cardiovascular Center, TEE examination should be performed as it was recommended in guidelines.

Left-sided IE, either aortic or mitral valve involvement, has been shown to give largest impact of embolic events occurence. In a prospective multicenter study of emboli risk in IE, Thuny et al revealed that mitral and aortic valves involvement have greater proportion of total embolic events (53% and 51% respectively).However, left-sided valves involvement is not a predictor of embolic event in multivariate analysis.[1] Fahmi et al showing different results in regard of left-sided valves involvement. They found that mitral valves involvement is the only significant predictor of embolic events in their multivariate analysis.[2] Thuny et al clearly showed that it was not left- or right-sided IE that matter to predict embolic events but vegetation length of more taht 10 mm and severe vegetation mobility that predict embolic events regardless its location.[1]

The exact role of echocardiography in predicting embolism has been largely debated due to inconsistence results of past studies. Some of important reasons of these discrepancies are well identified, i.e. small sample size, use of TTE alone, inclusion of embolic events before echocardiography examination and poor standardization of diagnostic criteria.[1] As a preliminary study, Fahmi et al[2] seem to repeat those limitation which then we have to be careful to implement its results.

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