38 Echocardiographic prediction of risk for embolism in patients with active infective endocarditis
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Objectives.— The aim of our study was to assess the value of transesophageal echocardiography (TEE) in predicting embolic events (EEs) in a large group of patients with definite endocarditis according to the Duke criteria, including silent embolism.

Background.— Infective endocarditis is a serious disease with diverse clinical manifestations. The value of echocardiography in predicting embolism in patients with endocarditis remains controversial. Rare studies reported an increased risk of embolism in patients with large and mobile vegetations.

Methods.— Transesophageal echocardiograms of 212 consecutive patients with definite infective endocarditis (IE) were analyzed. The incidence of embolism was compared with the echocardiographic characteristics (localization, size and mobility) of the vegetations. To detect silent embolism, cerebral scans and abdominal echography were performed in 87% of patients.

Results.— Among 212 patients, 32 (15%) had one or more EEs. There was no difference between patients with and without embolism in terms of age, gender and valve involved. On univariate analysis, Staphylococcus infection and vegetation length and mobility were significantly related to EEs. A significant higher incidence of embolism was present in patients with vegetation length >10 mm (78.1%, P < 0.001) and in patients with mobile vegetations (71.8%, P < 0.001). Embolism was particularly frequent among 30 patients with both severely mobile and large vegetations (>15 mm) (93.75%, P < 0.001). On multivariate analysis, the only predictors of embolism were vegetation length (P < 0.03) and mobility (P = 0.01).

Conclusions.— Our study shows that the presence of vegetations on TEE is predictive of embolism and that the morphologic characteristics of vegetations are helpful in predicting EEs in both mitral and aortic valve IE. It also suggests that early operation may be recommended in patients with vegetations >15 mm and high mobility, irrespective of the degree of valve destruction, heart failure and response to antibiotic therapy.

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40 Mitral valve replacement for functional mitral regurgitation in severe heart failure patients

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Introduction.— Echocardiographic measurement of mitral valve area (MVA) in the mitral stenosis (MS) is done by several methods including the proximal isovelocity surface area (PISA). One limitation for this method is the requirement of an angle correction factor (angle alpha between the mitral leaflets), which requires a manual measurement.

Objectives.— The aim of our study is to verify the validity of a simplified formula (simplified PISA) based on a fixed value of angle alpha by comparing in a group of patients with rheumatic MS the reliability of the simplified PISA method versus the two-dimensional planimetry, taken as a reference examination, to determine the effect of the presence of atrial fibrillation (AF), a mitral regurgitation (MR) ≥2, an aortic insufficiency (AI) ≥2, the valvular redesign and the degree of MS on the accuracy of the simplified PISA method.

Also we checked the correlation between PISA and simplified PISA. Patients and methods.— This is a prospective study of 110 patients (78 females and 32 males) having rheumatic MS with a mean age of 47 years [22; 89]. Sixty-five of them (59%) were in sinus rhythm, 25 patients (23%) had an MR ≥2, four patients (1.8%) had an AI ≥2, seventy patients (63.6%) had a Wilkins score > 8 and 35 patients (32%) had non severe MS (SM ≥1.5 cm²). The MVA was measured by planimetry then by PISA in all patients. The simplified PISA was calculated based on an angle alpha = 100° in all our patients.

Results.— There is no statistically significant difference (P ≥ 0.001) between the mean mitral valve areas measured by simplified PISA (1.30 ± 0.38 cm²) and those measured by planimetry (1.37 ± 0.34). The correlation between planimetry and simplified PISA is excellent (r = 0.93) even in the presence of AF (r = 0.88, P < 0.001), MR ≥2 (r = 0.83; P < 0.001) and a Wilkins score > 8 (r = 0.86; P < 0.01). Our results are not statistically interpretable for AI ≥ 2 because of the reduced number of patients. The correlation between the simplified PISA and planimetry is rather bad in the case of non-severe MS (r = 0.22). We found a good correlation between the MVA measured by simplified PISA compared to the PISA with corrected angle (r = 0.86; P = 0.04).

Conclusion.— The simplified PISA provides a reliable measurement of the MVA during the MS whatever the anatomic and clinical conditions of MS. This simplification would facilitate and extend the use of the PISA as an additional method for the assessment of MVA in routine practice.

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