

Echocardiographic predictors of systemic complication in patients with oscillating intracardiac mass suggestive of infective endocarditis

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Background : Echocardiographic evidence of oscillating intracardiac mass is one of major criteria in diagnosis of infective endocarditis(IE). There have been several reports about echocardiographic and clinical characteristics predictive of complications in patients with infective endocarditis. However some discrepancy have been noted between reports. **Methods and Results** : We reviewed echocardiographic data from 1999 to 2007 and selected subjects who had intracardiac oscillating mass suggestive of infective endocarditis and analyzed echocardiographic characteristics, its implication in diagnosis and complication and clinical course. Among 40 subjects with intracardiac oscillating mass, half of the subjects were diagnosed as definite infective endocarditis. Sixty percent of patients diagnosed as definite IE were surgically treated. Systemic embolization were most common in patients with vegetation at mitral valve followed by aortic valve. Vegetation characteristics prone to systemic embolization were large size(average size 21*11 mm), distal location to valve, oval shape rather than round or elliptical shape and existence of stock. **Conclusion** : Echocardiographic predictors of systemic complication in subjects with intracardiac oscillating mass were mitral valve vegetation, large size vegetation, vegetation location of distal to valve, existence of stock. These factors may help to identify patients with intracardiac mass suggestive of IE in need of more aggressive prevention of systemic complications

B-Type Natriuretic Peptide Has A Close Correlation With N-Terminal Pro-BNP: Regression Analysis And Its Independent determinants

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Background : There are frequent discrepancies in individual patients between B-type natriuretic peptide (BNP) and N-terminal pro-BNP (NP-BNP). The purpose of this study was to compare the efficacy of screening in diagnosis of left ventricular (LV) dysfunction and to identify its independent determinants. **Methods** : In 1032 consecutive patients, plasma level of BNP and NTproBNP were measured at a single place and time in a given patient for the evaluation of dyspnea or chest discomfort. Age, gender, body mass index (BMI), hemoglobin (Hg), and estimated glomerular filtration rate (eGFR), were recorded as clinical and laboratory variables. In 967 of 1032 patients, we performed 2D-guided echocardiography and measured LV ejection fraction (EF), LV diastolic dimension index (LVIDdI), LV systolic dimension index (LVIDsI), left atrial diameter index (LADI), and E/E'. Using ROC analyses, we compared the ability of the peptides to identify LV systolic (LVEF <45%) or advanced diastolic dysfunction (pseudonormal or restrictive physiology) and evaluated the potential independent influences of clinical, laboratory, and echocardiographic variables on the regression of BNP and NTproBNP by multiple linear regression analysis. **Results** : The AUC of BNP and NTproBNP to detect LVEF <45%, advanced diastolic dysfunction, and advanced diastolic dysfunction with preserved LVEF were 0.909 vs. 0.893, 0.897 vs. 0.879, and 0.806 vs. 0.796 respectively. Overall, BNP was superior to NTproBNP for the diagnosis of LV dysfunction but there were no significant differences of AUC between them by using z testing. There was strongly positive correlation between loge-transformed concentrations of BNP and NTproBNP by linear regression ($r = 0.895$, $r^2 = 0.802$, $p < 0.001$). In multiple regression analysis, plasma concentration of BNP, eGFR and EF were major independent determinants of plasma concentration of NTproBNP. The linear equation was $\text{Ln NTproBNP} = 0.947 \times \text{Ln BNP} + 0.007 \times \text{eGFR} + 0.017 \times \text{EF} + 3.098$. **Conclusion** : There was no fundamental discrepancy in the diagnosis of LV dysfunction between both biomarkers. In addition, eGFR and EF were independent determinants of plasma level of NTproBNP as well as BNP among all variables of interest.