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عنوان البحث

The Diagnostic and Prognostic Value of Mitral Annular Plane Systolic Excursion (MAPSE) as an Echocardiographic Indicator of Myocardial Dysfunction in Sepsis and Septic Shock

الملخص الانجليزي

Objectives: Validation of mitral annular plane systolic excursion (MAPSE) as a rapid easy marker of left ventricle (LV) systolic function in general, and as an independent predictor of systolic function and mortality among patients with septic shock. **Background:** Sepsis-induced myocardial dysfunction is one of the major predictors of morbidity and mortality in sepsis. Cardiac ultrasonography has become an indispensable tool in ICU for management of hemodynamically unstable critically ill patients, and MAPSE has been suggested as a surrogate measurement for LV function. **Methods:** Prospective analysis of 50 septic shock patients by transthoracic echocardiography was carried out. MAPSE, LV ejection fraction (LVEF) measured by modified Simpson's method, and mitral annular systolic velocity by tissue Doppler imaging TDI were measured every other day for 1 week, and they were correlated with cardiac injury biomarkers and mortality predictors. **Results:** MAPSE values correlated significantly with sequential organ failure assessment score (SOFA score) among survived and non-survived patients (average; $r = 0.95$ with p -value 50% had $\text{MAPSE} \geq 10 \text{ mm}$ and $\text{TDI S}' > 8 \text{ cm/sec}$, and regarding ROC curve for prediction of LVEF of value $\leq 50\%$; MAPSE measurement was (98.1% sensitivity, 90.9% specificity, and 96.4% accuracy for cut-off value of $\leq 9 \text{ mm}$). **Conclusion:** MAPSE value is thought to be an independent tool for LV systolic function assessment generally, as well as myocardial injury in patients with sepsis induced myocardial dysfunction, and also a predictor of mortality in patients with severe sepsis and septic shock.