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Role of Tissue Doppler Tei Index in Evaluating Myocardial Performance after Coronary Revascularization

الملخص الانجليزى

Background: Tei index expresses the overall systolic and diastolic myocardial function in a single number. The use of tissue Doppler instead of conventional pulsed wave Doppler enables us to measure Tei index in a single scan. It also has many advantages for the assessment of myocardial function with coronary revascularization in IHD patients. **Methods**: We included 47 chronic ischemic heart disease patients with LV dysfunction (EF<50%) who were subjected to coronary revascularization with either CABG or PCI. They were divided into 2 groups according to the improvement of EF after revascularization. Group I: Included 35 patients who had an increase ≥ 5% in LV EF at follow up. Group II: Included 12 patients who had an increase <5% increase in LV EF at follow up. Echocardiography including tissue Doppler Tei index (tdTei) was done twice; just before and at least 4 months after coronary revascularization. **Results**: Following revascularization; improvement of ejection fraction correlated well with tdTei improvement) r=0.67, p<0.001) and was associated with improvement of wall motion score index (p<0.001) and diastolic function parameters including E`/A` (p<0.05) and E/E` (p<0.001). Using ROC curve, we found that the tdTei index at cut-off point 72.9; can predict patients who are expected to have ejection fraction improvement from coronary revascularization with high sensitivity (83.3%) and specifity (80%). It also correlated well to TIMI score (p<0.05).**Conclusion**: Tissue Doppler Tei index is a promising technique allowing accurate quantitative description of the effect of ischemia on myocardium including both diastolic and systolic dysfunction in a single number. Baseline tdTei index can predict patients who are expected to have improvement of myocardial function (both diastolic and systolic) after coronary revascularization.