THE AORTIC VELOCITY MEASUREMENTS IN LEFT VENTRICULAR FUNCTION ASSESSMENT

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The purpose of this study was to determine the clinical value of the aortic velocity measurements in the assessment of the left ventricular function LVF in coronary artery disease CAD.

The study was carried out in 60 patients with CAD who underwent the selective coronarography and left ventriculography. The control group consists of 30 healthy subjects.

The blood flow velocity b.f.v. curve from the ascending aorta was recorded transcutaneously from the suprasternal notch by means of the continuous, wave Doppler technique. Simultaneously the mechanocardiogram or intracardiac pressure curves were recorded.

The following parameters derived from the aortic b.f.v. curve were calculated: Q - u interval, peak velocity PV, acceleration time t_{acc}, maximal acceleration MA, ejection time ET, velocity systolic integral VSI.

The Doppler aortic velocity measurements were correlated with invasive indices of LVF derived from pressure and volume measurements and with extent of CA lesion (based on coronarography single, double, triple vessels disease).

The results showed that the Doppler aortic b.f.v. indices reflect the LVF impairment (the contractility state, the LVF as a pump) and extent of CAD.

This technique provides a new noninvasive approach in the assessment of LVF.