

ECHOCARDIOGRAPHY IN THE FOLLOW-UP OF PATIENTS WITH PROSTHETIC HEART VALVES.

E.Koudelková, A.Grošpic, F.Niederle

Institute for clinical and experimental medicine, Prague, Czechoslovakia

In 26 patients with aortic valve disease and in 25 with mitral valve disease we evaluated changes in the size, hypertrophy and function of the left ventricle within 2 years of aortic or mitral valve replacement and compared them with the preoperative echocardiographic findings.

Examination after aortic valve replacement for predominant aortic stenosis demonstrated normalization of the size of the left ventricle, regression of left ventricular hypertrophy and a distinct improvement of echocardiographic left ventricular functional parameters. Left ventricular dimensions also diminished significantly after aortic valve replacement in aortic insufficiency. However, in the patients with maximum dilatation of the left ventricle before operation aortic valve replacement failed to effect a complete normalization of left ventricular size. We found a similar postoperative regression of left ventricular hypertrophy in aortic insufficiency and aortic stenosis. However, echocardiographic signs of left ventricular hypertrophy normalized only in patients with a lesser degree of hypertrophy preoperatively. The postoperative changes of left ventricular functional parameters in aortic insufficiency, compared with the preoperative values, were not statistically significant.

In mitral stenoses, the size nor function of the left ventricle changed after mitral valve replacement. In predominant mitral insufficiency, valve replacement was followed by a significant diminution of left ventricular dimensions. This notwithstanding, the left ventricle remained enlarged in more than 50% of those patients. Moreover, no significant improvement was found in echocardiographic functional parameters of the left ventricle after operation for mitral insufficiency.

To conclude, the study demonstrated, that even noninvasive ultrasonic technique can yield important data about reversibility of morphological and functional changes of the left ventricle after implantation of prosthetic heart valves.