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Anatomic Correction of Mitral Valve Regurgitation and Echo Dobutamine Assessment in Barlow's Disease

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Objectives:

The aim of this report was to evaluate the stability of repair and the haemodynamic response to stress condition using Dobutamine infusion in patients undergoing anatomic correction of mitral valve regurgitation in Barlow's disease.

Materials and Methods:

Between January 2002 and January 2012, a total of 35 patients with Barlow's disease underwent mitral valve repair. Pre-operatively, 5 patients were in New York Heart Association class I, 17 patients in class II and 13 in class III. All patients had a Flail posterior leaflet and were treated by quadrangular resection and the "sliding technique". Those with a Flail anterior leaflet (6 patient) were treated with insertion of gore-tex chordae. Posterior annuloplasty was performed in 20 patients by a 3 mm Æ gore-tex tube. At 2 years follow-up all patients underwent baseline and dobutamine stress echocardiography to assess the stability of repair and the haemodynamic response to stress.

Results:

Cardiopulmonary by-pass and aortic cross-clamp time were, respectively, 66±25 min and 50±19 min. No hospital death occurred. The mean post-operative stay was 8,5±2,5 days. The pre-discharge echo showed: absence of mitral regurgitation in 20 patients, mild regurgitation in 15 patients and normal trans-mitral flow in all patient. Dobutamine stress echocardiography showed normal annular excursions, mitral valve area, mean transvalvular gradient and pulmonary artery pressure at rest and stress. LVESD under stress improved significantly from 42±7.3mm at rest to 38±6.2 mm under stress (p=0.002), mitral valve area at rest 2.9±0.9 cm2 to 4.5 ±1.7 cm2 at stress (p=0.001).

Conclusions:

Anatomic correction of mitral valve regurgitation is feasible in Barlow's disease with optimal results. Dobutamine stress echocardiography is helpful to evaluate the haemodynamic response to stress after mitral valve reconstruction.