

**C116. Mitral Valve Growth After Stabilization Of Posterior Annulus With Untreated Autologous Pericardial Strip In Children With Congenital Mitral Valve Insufficiency**

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**OBJECTIVES:** This study evaluates our technique of posterior annulus stabilization with untreated autologous pericardial strip and determines whether this allows growth of anterior mitral leaflet and its annulus in infants and children.

**METHODS:** Seventeen children (mean age,  $9.43 \pm 6.03$ ) were prospectively followed-up after mitral valve repair for congenital mitral insufficiency with severe annular dilatation and anterior leaflet prolapse. Mitral valve repair techniques were Paneth posterior annuloplasty (n=14) and Gerbode plication plasty (n=3), both modified with stabilization of the posterior annulus with untreated autologous pericardial strip. Motion studies of the anterior mitral leaflet were taken serially on follow-up.

**RESULTS:** Serial doppler studies have shown that mitral valve showed excellent valve function on a mean follow-up of  $10 \pm 2.05$  years. Transmitral flow indices were  $3.7 \pm \text{cm}^2/\text{m}^2$  and flow velocity peak was  $1.06 \pm 0.2$  m/s. Posterior annular planimetry showed a very mild narrowing (mean  $7.8 \pm 5.2\%$ ) of the annular size during systole. Diameter of anterior mitral leaflet and its annulus increased linearly in relation to body size. These findings were consistently seen in all, except in two, who had reoperations 1 and 2 years postoperative respectively, for recurrent anterior leaflet prolapse. On reoperation, the untreated autologous pericardium was perfectly attached to the posterior annulus covered by a smooth layer of fibrous tissue without calcification.

**CONCLUSIONS:** These findings demonstrated that posterior annulus stabilization with pericardial strip prevented further posterior annular dilation, allowed the anterior mitral valve leaflet and its annulus to grow in relation to body size over time, and preserved the flexible properties of the mitral valve orifice.