A SIMPLE WAY TO TREAT MITRAL VALVE PROLAPSE: CHORDAL REPLACEMENT USING A NEW MITRAL LEAFLET RETRACTOR

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Objectives: The most difficult aspect of chordal replacement during mitral valve repair is to determine the correct length of the new chordae. A simple technique of chordal replacement was developed employing a new mitral leaflet retractor which enables easy adjustment of the length of artificial chordae.

Methods: For isolated prolapse of the anterior mitral leaflet (AML), the level of the normal opposing posterior leaflet can be used to determine the length of new chordae. We developed a double-headed leaflet retractor with which both mitral leaflets can be retracted simultaneously at the same height. This retractor makes it easy to tie the slippery Gore-Tex sutures for artificial chordae, adjusting the length of the new chordae on the AML to the height of the opposing normal posterior leaflet. We employed this retractor for the creation of artificial chordae in 55 consecutive patients with degenerative AML prolapse between 2006 and 2012. A ring annuloplasty was concomitantly performed to stabilize the reconstruction.

Results: There were no hospital deaths and follow-up was complete; mean duration of follow-up was 918 days (±550 standard deviation). Reoperation-free survival at three years was 97.6%. Freedom from moderate-to-severe mitral regurgitation was 88.7% at three years. At follow-up, all non-reoperated survivors were in NYHA class I or II.

Conclusions: We have reported chordal replacement using a new double-headed mitral leaflet retractor. Our leaflet retractor is a convenient tool facilitating easy creation of artificial chordae in mitral valve repair.