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Minimally Invasive Video-Assisted Mitral Valve Repair using PTFE-Chordae: A Simplified Technique [1]

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Featured Image:



Author(s): melgabry hjakob juwe Sharaf-Eldin Shehada MD

The authors demonstrate a video-assisted minimally invasive mitral valve repair via an anterolateral right minithoracotomy. The patient was a 54-year-old man who was referred to the authors' department with severe dyspnea. Echocardiography revealed impaired left ventricular function and severe mitral valve regurgitation due to posterior mitral leaflet and posteromedial commissure prolapse, in addition to ruptured chordae. Intubation was performed using a double endotracheal tube, the femoral vessels were cannulated, and direct aortic cross-clamp was applied.



Mitral valve repair was achieved through chordae replacement in the P3 segment using double arm PTFE (4/0 Gore-Tex) chordae, correction of the prolapsed posteromedial commissure with interrupted inverted sutures (5/0 Cardionyl®), and annuloplasty using a 30 mm flexible band. The authors' approach for determining chord length for posterior mitral leaflet prolapse is to overcorrect about 5 - 10 mm underneath the annular plane. The procedure was successful with no residual mitral regurgitation, and the cross-clamp time was 86 minutes. The postoperative course was uneventful and the patient was back to work after six weeks. Follow-up echocardiography at three months shows no residual mitral regurgitation and marked improvement of the left ventricular function.

The authors conclude that this chordae-replacement simplified technique allows for recorrection if needed and reduces the number of PTFE sutures that are needed, which in turn reduces the length of surgery. It also reduces the risk of systolic anterior motion (ie, posterior mitral leaflet overcorrection), hence minimizing the possibility of failure.

Subspecialty(ies): Cardiac [3] Content Area(s): Videos - General [4] Expert Techniques [5] Taxonomy: Valve Disease [6]

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