Redo Robotic–Assisted Mitral Valve Repair in a Young Patient: Operative Technique

Objective: The benefits of mitral valve repair over replacement in most patients have been extensively demonstrated in the surgical literature. However, when repair fails over time, a history of previous cardio–thoracic surgery is often considered a relative contraindication to a robotic–assisted, totally endoscopic redo approach. Such patients are often offered mitral valve replacement through a redo midline sternotomy. We present our surgical technique adopted in approaching a young patient with de novo, severe mitral regurgitation secondary to failure of a previous mitral valve repair due to annuloplasty ring dehiscence.

Case Video Summary: We present a case of a 32-year-old male with a history of mitral valve repair (34-mm annuloplasty ring, three Gore-Tex neochords to the anterior leaflet), previous Cox-Maze procedure, and placement of a left atrial appendage epicardial clip performed at an outside institution. Twenty months after the first operation the patient was referred to our center for severe mitral regurgitation. Preoperative transesophageal echocardiogram demonstrated partial dehiscence of the annuloplasty ring, one torn and two elongated Gore-Tex neochords. Infective endocarditis was excluded by proper investigations and we offered a robotic–assisted, totally endoscopic approach for redo mitral valve repair. The operation was conducted with percutaneous femoral cannulation, replacement of the annuloplasty ring with a 36-mm annuloplasty band, placement of one Gore-Tex neochord to A1, two neochords to A2 and one neochord to A3. The patient had an uneventful postoperative course and was discharged home on postoperative day four.

Conclusions: Redo robotic–assisted, totally endoscopic mitral valve repair in young patients is safe and feasible, and can achieve excellent results even in complex lesions (Figure 1).

Figure 1: Intraoperative findings, prior to repair (left); final result (right).

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