

3-d Endoscopic Mitral Valve Repair In A Patient With Mitral Regurgitation Caused By Infective Endocarditis

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BACKGROUND Its a typical case of 68-year old male patient, 166 cm tall, weighing 68 kg, and with body surface area of 1.80 m² who had history of infective endocarditis. Chief complaint was chest tightness and fever for 3 months,even treating patient with strong antibiotic, fever can not be controlled. Upon examination, had mitral valve prolapse(P2 area) and regurgitation (severe), rupture of chordae tendineae, formation of extensive vegetations and NYHA class III heart failure. The aim of the video is to demonstrate that even in a patient with mitral regurgitation caused by infective endocarditis and chordae tendineae rupture, the totally 3-D endoscopic minimally invasive heart valve surgery can be performed safely and reliably.

METHODS Cardiopulmonary bypass was cannulated into femoral artery and femoral vein. Through 3-D endoscopic minimally invasive heart surgery approached by right thoracotomy (3cm long skin incision), mitral valve repair (MVP) was performed (32mm Edwards Physio II and two artificial chordae) after excising anterior leaflet vegetations and the prolapsed posterior leaflets with large vegetations without any unexpected and unfortunate events.

RESULTS Aortic cross clamp time was 115 minutes, and total cardiopulmonary bypass time was 150 minutes. Drainage volume collected from the operated site at 24 hours after surgery was 230 ml. Aggregate volume of intraoperative and postoperative blood transfusion (only plasma) was 400ml. Mechanical ventilation was used for 26 hours in total, both intraoperatively and postoperatively. Length of stay in postoperative ICU was 2 days followed by 7 days in inpatient ward.

CONCLUSIONS Complicated heart surgeries even in patients with infective endocarditis and severe mitral regurgitation can be performed safely and reliably by applying the most appropriate technique, best materials, and relevant experience intelligently. Using this principle, a totally 3-D endoscopic minimally invasive heart surgery involving mitral valve repair in such patient with severe mitral regurgitation caused by infective endocarditis, can be performed safely and reliably.



Figure 1 mitral valve vegetations



Figure 2 Prolapse of posterior leaflet of mitral valve



Figure 3 Excision of prolapsed posterior leaflets of mitral valve



Figure 4 Mitral valve repair with an annuloplasty ring around its annulus



Figure 5 Mitral valve repair with several artificial chordae



Figure 6 The view after mitral valve repair