Mitral Leaflet Restoration Using a Billowing Leaflet in Active Infective Endocarditis

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A key to the success of mitral valve repair in patients with infective endocarditis is the technique used for reconstruction of the missing leaflet. We report the case of a 47-year-old man with active mitral infective endocarditis. After dissection of the infected segments of P3 and the posteromedial commissure, the defect was reconstructed using tissue from a billowing A2 medial and A3 segment. Chordal transfer with an anterior chord was performed to correct the A3 mild prolapse. Follow-up echocardiography showed recovery of mitral valve morphology and function without regurgitation.

Comment

A billowing leaflet with excess tissue is a pathologic condition that needs to be repaired in patients with myxomatous degenerative prolapse [1, 2]. However, it may provide material for leaflet reconstruction in cases of mitral

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infective endocarditis. When using a billowing leaflet for mitral valve reconstruction, care should be taken to anastomose the billowing leaflet to the annulus without tension to prevent dehiscence of the suture sites, and to correct the prolapse with appropriate procedures such as chordal transfer and artificial chords [2–4]. In this patient, chordal transfer provided sufficient coaptation of the mitral valve. These two points are extremely important for avoiding early recurrence of mitral regurgitation and for having normal mitral valve morphology and function without late phase recurrent mitral regurgitation.

The limitations of this procedure are its applicability to a limited number of patients and its long-term outcomes because of the inherent degeneration of the native valve. If a billowing leaflet suitable for reconstruction of mitral valve is not available in such a patient, autologous pericardium may be an alternative material [5, 6]. We continue follow-up observations of this patient, and will report the late phase outcome.

References