

IMAGES IN INTERVENTION

Deformation of Stabilization Arch Following Post-Dilatation of Symetis ACURATE Neo Aortic Bioprosthesis



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A 78-year-old man with severe aortic stenosis and progressive exertional dyspnea (New York Heart Association functional class III) was referred for aortic valve replacement. Other comorbidities included chronic obstructive lung disease, permanent atrial fibrillation, hypertension, and bilateral total hip replacements (logistic EuroSCORE 5.14%, EuroSCORE II 1.9%, and Society of Thoracic Surgeons score 1.76%). His case was presented at the heart team meeting and transcatheter aortic valve implantation was recommended. A 27-mm Symetis Accurate Neo bioprosthesis (Symetis, Écublens, Switzerland) was deployed under rapid ventricular pacing. Intraprocedural transesophageal echocardiography (TEE) demonstrated moderate paravalvular regurgitation. Post-dilatation was performed using a 25 mm × 45 mm Cristal balloon (Balt Extrusions, Montmorency, France). Following post-dilatation it was noted that one of the stabilization arches had been deformed by passage of the balloon. A brief unsuccessful attempt was made to lift the deformed arch using a 6-F Amplatz (Cordis, Bridgewater, New

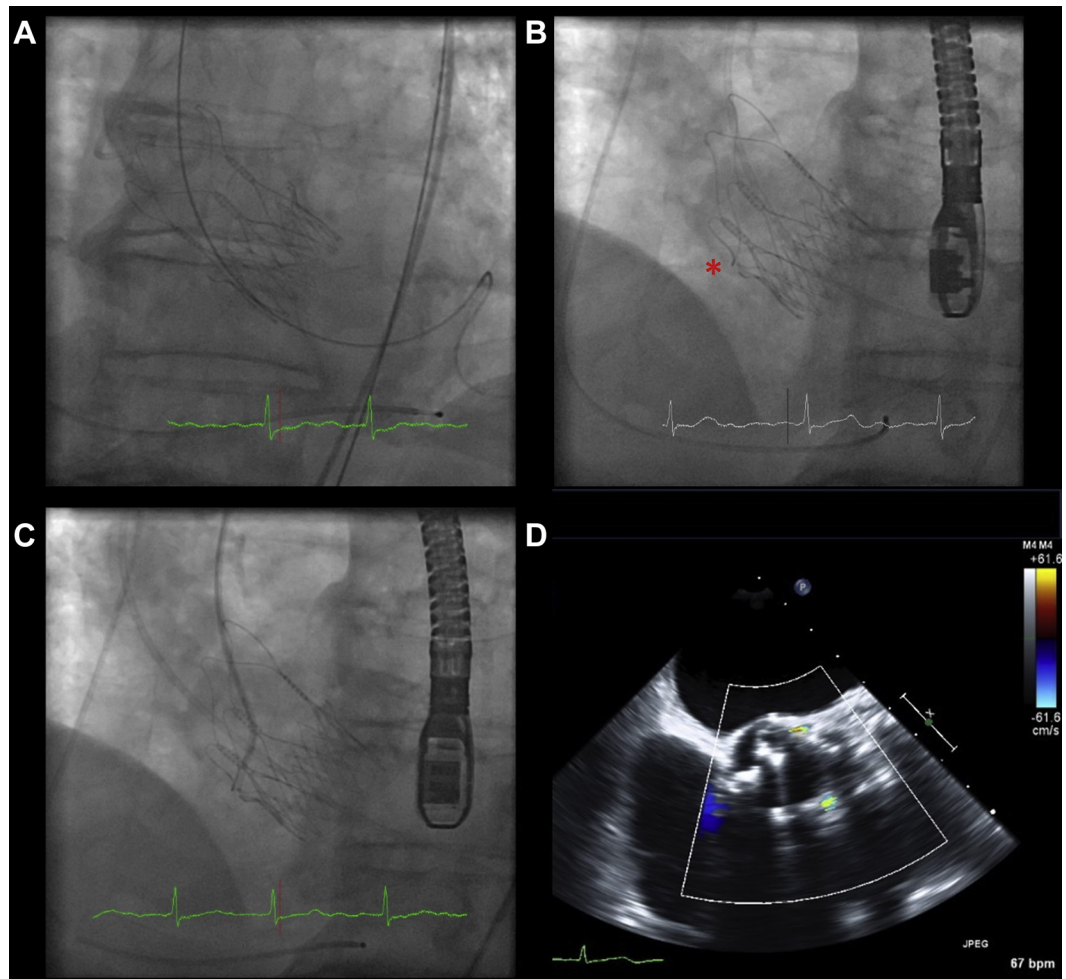
Jersey) right modified catheter. Subsequent aortogram revealed mild paravalvular regurgitation. TEE also showed mild paravalvular regurgitation with normal leaflet motion and no valvular aortic regurgitation (Figures 1A to 1D). Echocardiographic findings were unchanged at 1-month follow-up.

The Symetis ACURATE Neo bioprosthesis consists of a self-expanding nitinol frame with a porcine pericardial valve. Stabilization arches help with coaxial alignment and a pericardial skirt on the inner and outer aspects of the frame aims to prevent paravalvular leak (1). The need for post-dilatation is common, with 1 center reporting post-dilatation in 53% of cases (2,3). This case identifies an important potential complication of post-dilatation and highlights the need for caution when advancing post-dilatation balloons to avoid deformation of the stabilization arches.

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FIGURE 1 Deformation of Stabilization Arch With Mild Aortic Regurgitation

(A) A 27-mm Symetis ACURATE Neo (Symetis, Écublens, Switzerland) immediately following deployment. (B) Deformed stabilization arch passage of post-dilatation balloon (red asterisk). (C) Unsuccessful attempt to straighten stabilization arch using an Amplatz right modified catheter. (D) Residual mild paravalvular regurgitation at conclusion of procedure.

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