

A Valve in Valve: Mitral Valve Replacement with Tricuspid Annuloplasty in a Case of Mitral Annular Calcification

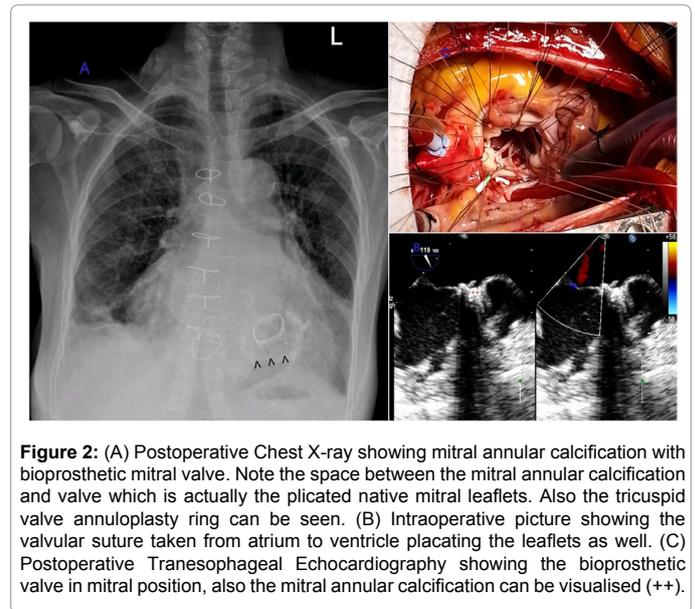
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Case Report

A 79 year old female presented with history of dyspnoea on exertion (New York Hear Association class III) and palpitation at rest for last 3 years and has developed paroxysmal nocturnal dyspnoea during the last 1 year. On examination she had irregular pulse. She had a hyper dynamic precordium with the apex displaced to the left 6th intercostal space 1 cm lateral to the midclavicular line. A pan systolic murmur was heard at the apex. Chest X-ray showed annular calcification of the mitral valve. Echocardiogram revealed a dilated left ventricle (LVEDD 69 mm). There was bi-leaflet prolapse causing severe mitral regurgitation. Tricuspid annulus was dilated (43 mm) causing moderate regurgitation (Figure 1). There was a mild pulmonary artery hypertension. She was planned for surgery and under moderate hypothermic cardiac arrest; left atrium was approached through the Sondergaard's groove. We can appreciate calcification of the mitral annulus extending on the posterior annulus across both commissures and partly into the anterior annulus. It was also extending into the ventricular mass. Mitral valve was replaced with #25 bioprosthetic valve with complete preservation of both the leaflets. Pleggetted sutures taken from atrium to ventricle through the leaflets in a way to plicate them were used to fix the prosthetic valve. Tricuspid annuloplasty ring was placed. She had a normal postoperative recovery. Her echocardiogram at discharge and 6 month follow up showed no paravalvular leak and good function of the prosthetic valve (Figure 2).

Mitral annular calcification (MAC) continues to be a challenge in valvular heart surgery and associated with high rate of complication including atrioventricular groove rupture, myocardial infraction, haemorrhage, ventricular perforation, paravalvular leak [1]. Carpentier [2] classified MAC based on its circumferential extension around the mitral annulus and the radial extension into the leaflets and ventricle. There are various techniques described to treat MAC with mitral valve pathology. These include procedure with mitral annular reconstruction after decalcification or without decalcification and the mitral valve



are either repaired or replaced [3]. Procedures with delcalcification and reconstruction have higher rate of atrioventricular dissociation unless done in expertised hand. Procedures without decalcification have higher incidence of paravalvular leak and haemorrhage. Valve in valve without decalcification still continues to be a safe procedure with minimal morbidity and low paravalvular leak if executed meticulously.

References

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Received November 16, 2015; Accepted December 10, 2015; Published December 15, 2015

Citation: Idhrees AM, Panicker VT, Radhakrishnan BK, Pillai V, Karunakaran J (2015) A Valve in Valve: Mitral Valve Replacement with Tricuspid Annuloplasty in a Case of Mitral Annular Calcification. Cardiovasc Pharm Open Access 4: 166. doi:10.4172/2329-6607.1000166

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