CASE REPORT

Percutaneous transluminal mitral valvuloplasty in post Mitral valve repair and Aortic valve replacement patient

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ABSTRACT

MV repair in the rheumatic population is feasible with acceptable long-term results. Incidence of mitral stenosis (MS) following mitral valve (MV) repair for severe rheumatic mitral regurgitation (MR) and usefulness of percutaneous transluminal mitral valvuloplasty in these patients is not described in literature. We report a case of successful PTMC in severe MS following MV repair for severe rheumatic MR.

1. Case report

A 34-year-old male, who underwent Aortic Valve replacement with mitral valve repair for rheumatic heart disease (RHD), Severe AR with moderate MR in 2007. Patient had NYHA class III Symptoms along with palpitation for 10–12 years. Hence he was taken for AVR and MV repair. Pre operation echo revealed RHD, Severe AR, Mod MR, Dilated LV (LVIDd/s 7.8/6.0 cm), Dilated LA (4.3 cm) and LVEF = 55%. Intra-operative findings revealed Dilated LA and LV, thickened aortic leaflets with lack of centre coaptation, Thickened AML and PLML with rolled edges, mild commissural fusion, mild to moderate sub-valvular changes. He underwent AVR with ATS 20 mm and Bilateral commissurotomy and papilotomy of P2, 27 mm SJM angioplasty ring. Post repair no leak on saline test.

Echocardiography after three month of surgery revealed Normally functioning aortic prosthetic valve, Mitral valve area of 1.6 cm².

In March 2017, after 10 years of AVR and MV repair, patient presented with of exertional dyspnea. He underwent echocardiography which revealed normally functioning Aortic Valve (peak gradient across Aortic valve 15 mmHg, Mean gradient = 7 mmHg), commissural fusion with MVA of 0.7 cm², as shown in Fig. 1, no significant subvalvar pathology or calcification of the valve, dilated LA. In view of suitable morphology of MV for percutaneous transluminal mitral valvuloplasty (PTMC) with Boston score (Wilkins score) of 7, he was considered for PTMC. Heart team discussion was done. Team decide to attempt PTMC so that MV replacement (MVR) may be delayed for few more years. IV heparin infusion was started and warfarin was stopped. Three hours before the procedure heparin was stopped. Three hour after the PTMC IV heparin was started and continued until INR was in therapeutic range.

Through right femoral vein approach patient underwent PTMC with 26 mm Accura balloon inflated to 26 mm. Pigtail catheter was not kept in the ascending aorta as the metallic Aortic valve was the landmark for the septal puncture as shown in Fig. 2.

Procedure was successful with single inflation. Medial commissure was split and lateral commissure was partially split as shown in Fig. 3.

MVA increased from 0.6 to 1.3 cm² as shown in Fig. 4, MV gradient decreased from 17 mmHg to 7 mmHg, mean left atrial pressure decreased from 15 to 7 mmHg. There was no increase in MR. During the procedure patient went into vasovagal reaction. Patient discharged after therapeutic range of INR was achieved. Patients is currently under follow with NYHA I symptom.

2. Discussion

MV repair in RHD patients, using current techniques, can effectively correct hemodynamic and functional abnormalities with satisfactory results.1 In a study by Choudhary et al.2 718 patients with rheumatic severe MR underwent MV repair and three patients (0.4%) developed significant MS and all underwent reoperation. PTMC is the procedure of choice for the treatment
of MS; surgical intervention is now reserved for patients, who are not candidates for a percutaneous procedure. Incidence of MS following MV repair for rheumatic MR is not known. There are no data available regarding treatment plan for these patients. To the best of our knowledge usefulness of PTMC for MS following MV repair for rheumatic MR is not available in the literature.

Hence we share our experience of feasibility and safety of PTMC in MS following MV repair for severe rheumatic MR.

3. Conclusion

In patients with suitable valve morphology, PTMC can be done successfully in MS following MV repair for severe MR. This may help to delay the need for MVR in younger patients.

Conflicts of interest

I declare that there is no conflicts of interest.

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