A CASE OF SEVERE AS WITH SEVERE LVOT STENOSIS SUCCESSFULLY TREATED BY TAVR AND SUBSEQUENT PTSMA

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Aortic stenosis (AS) causes left ventricular hypertrophy which sometimes leads to left ventricular outflow tract stenosis (LVOTS) like hypertrophic obstructive cardiomyopathy. We report a case of AS and concomitant LVOTS treated by balloon aortic valvuloplasty (BAV), TAVR and percutaneous transluminal septal myocardia alcohol ablation (PTSMA) sequentially.

A 84-years-old female presented with severe AS [aortic valve area (AVA) 0.5 cm², mean gradient 63 mmHg] and LVOTS [peak gradient 166 mmHg], hypertension, hyperlipidemia, and heart failure. Her STS-PROM was 4.95% and significant frailty was noted. Due to high surgical risk, non-surgical approach was sought. Medical therapy with cibenzoline and bisoprolol ameliorated LVOTS. However, subsequent BAV using 16 mm retrograde balloon exacerbated LVOTS with a LVOT gradient from 20 mmHg to 45 mmHg and worsening MR. One month following BAV, transfemoral TAVR using SAPIEN3® 23 mm was performed without any valve related complications. LVOTS was worsened with a pressure gradient from 76 mmHg to 117 mmHg and MR was mildly improved. One week later, elective PTSMA was performed by injecting 0.8 cc of ethanol into the first septal branch territory with an improved LVOT pressure gradient from 110 mmHg to 20 mmHg and improved MR.

Leaning points: LVOTS can accompany with severe AS. In those cases, single relief of valve resistance could exacerbate adjacent LVOTS hemodynamics. TAVR with concurrent or subsequent PTSMA should be employed for better improvement of obstructive hemodynamics.
Pre intervention