## Reviving the old: percutaneous balloon mitral valvuloplasty

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University Hospital of Split, Split, Croatia **KEYWORDS:** balloon mitral valvuloplasty, severe mitral stenosis, prohibitive surgical risk.

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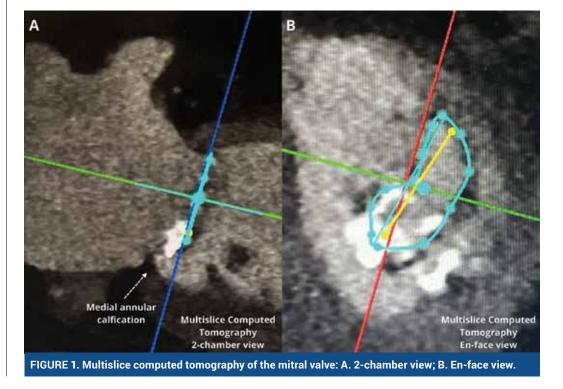
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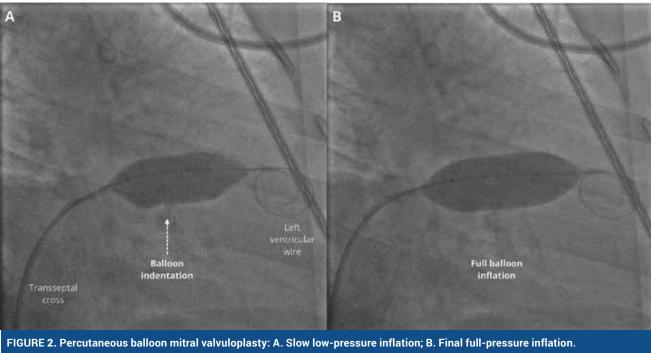
**Background**: Percutaneous balloon mitral valvuloplasty (BMV) is reasonable management for inoperable patients with severe symptomatic mitral stenosis (MS) and favorable patient/anatomic characteristics. However, the presence of adverse features such as annular calcification is associated with unpredictable outcomes in this challenging population. Compassionate utilization of BMV in inoperable patients is increasing worldwide and represents salvage management.

Case report: A middle-aged patient with a history of stroke, diabetes, anemia, and bipolar disorder was repeatedly admitted due to severe dyspnea. Initial work-up showed a preserved left ventricular function with a severe degenerative MS (mean gradient 12-15 mmHg and area <1.1 cm²), mild commissural fusion and moderate medial annular calcification (Cormier score 3) (Figure 1). Right heart catheterization (RHC) showed high pulmonary artery (43 mmHg) and wedge (18 mmHg) pressures with high pulmonary vascular resistance (PVR, 8.4 WU). The patient was referred to cardiac surgery, but it was deemed as a prohibitive surgical risk. Due to refractory heart failure with multiple short-term rehospitalizations, the patient was proceeded to salvage BMV. Procedural details: The transseptal (TS) access and balloon septostomy (NyloTrack® 7x40mm) were done. Thereafter, a successful BMV procedure was performed (Edwards® 23x40mm, Z-Med® 25x40mm) (Figure 2). Early postprocedural echocardiogram detected better hemodynamic parameters with residual severe MS (mean gradient ~8 mmHg and area ~1.4 cm²). The patient was successfully discharged. Follow-up: Novel readmission occurred in a short



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period due to the recurrence of symptoms. Repeated imaging and RHC showed improved determinants of pulmonary hypertension and PVR. The patient was again referred to surgeons, but this time she was accepted for operation due to a better risk profile.

**Conclusions**: Percutaneous BMV is an optional salvage procedure for inoperable patients with severe refractory MS and unfavorable characteristics. Its utilization should be reserved for palliative symptomatic relief with uncertain long-term hemodynamic effects. Some patients may benefit from surgical risk reduction and bridge to surgery.

LITERATURE

Vahanian A, Beyersdorf F, Praz F, Milojevic M, Baldus S, Bauersachs J, et al; ESC/EACTS Scientific Document Group. 2021 ESC/EACTS Guidelines for the management of valvular heart disease. Eur Heart J. 2022 Feb 12;43(7):561-632. https://doi.org/10.1093/eurheartj/ehab395