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**OUTCOMES OF TRANSCATHETER PULMONARY VALVE-IN-VALVE IMPLANTATION: A SINGLE-CENTRE OBSERVATIONAL STUDY**

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**Background:** as prevalence of patients with congenital heart disease increases, many patients who have previously undergone pulmonary valve replacement develop dysfunction of the bioprosthesis. Transcatheter pulmonary valve-in-valve implantation (TPViV) is an option of treatment of failing pulmonary bioprosthetic valves, but extensive data are not yet available.

**Methods:** we retrospectively analysed 60 patients who underwent TPViV within a failing surgical or percutaneous valve in our Centre since January 2009 to August 2025, collecting procedural data and echocardiographic findings before and after the procedure. Primary outcome at long-term follow-up was a composite of death or reintervention.

**Results:** 60 patients were included (mean age  $34.1 \pm 14.6$  years; two-thirds male), primarily with an underlying diagnosis of Tetralogy of Fallot (two-thirds) and a history of  $\geq 2$  previous cardiac surgeries. The predominant mechanism of valve dysfunction was mixed stenosis and regurgitation. All 60 patients underwent successful TPViV (37 Sapien, 20 Melody and 3 Myval) with no deaths or conversions to open-heart surgery. The procedure significantly reduced peak RVOT gradients (mean reduction  $30.7 \pm 19.5$  mmHg,  $p < 0.001$ ) and right ventricular systolic pressure (mean reduction  $25.7 \pm 19.5$  mmHg,  $p < 0.001$ ), with only one more-than-mild pulmonary regurgitation at discharge. At a mean follow-up of 42.2 months, the composite endpoint of death or reintervention occurred in 17.2% of patients (2 deaths, 8 reinterventions), with infective endocarditis as the main cause. Reintervention-free survival remained  $>90\%$  at 1000 days.

**Conclusions:** TPViV is a safe and effective strategy for managing dysfunctional pulmonary bioprosthetic valves. Long-term follow-up reinforces that while durability is generally high, endocarditis remains a primary mechanism of late failure requiring reintervention.