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Objective: Mechanical aortic valve replacement (AVR) is still the recommended valve substitute in young adults, although cultural reasons have popularized bioprostheses also in these patients. Indeed, structural valve deterioration (SVD) is still the major concern of bioprosthesis in young adults. INSPIRIS RESILIA aortic valve has been recently launched on the market for AVR in young patients, with the potential to reduce SVD.

Methods: All adult patients aged <65 years receiving an INSPIRIS RESILIA valve for AVR in the last 12 months were enrolled. Baseline and operative variables, hospital outcome and echocardiographic data (preoperative, 30-day, 3 months, 6 months, and 1 year) were prospectively collected. Univariate analyses were used to investigate hospital outcome. Paired sample T-test addressed differences in echocardiographic data between 2 consecutive different time-points

Results: Thirty-nine patients received INSPIRIS RESILIA valve. Mean age was 51.1 ± 8.5 years, 21 patients (53.8%) had ≤ 55 years at the time of surgery. There were no deaths or valve-related complications during hospitalization; NYHA class improved in 28 (71.8%) patients at discharge. One-year actuarial survival, freedom from SVD or valve-related reo-

peration were 100%. When patients requiring AVR for aortic stenosis were considered, INSPIRIS RESILIA significantly reduced trans-aortic mean gradient already after surgery, and maintained an excellent and stable hemodynamic profile during follow-up (Table 1). Patients requiring AVR for valve regurgitation similarly reported an excellent and stable hemodynamic profile during follow-up, and further demonstrated significant left ventricular reverse remodelling as early as 30-days postoperatively (Table 1). When the age cut-off of 55-years was considered, both the younger and the older reported stable mean gradients from 30-days to 1-year after surgery (Table 1).

Conclusions: INSPIRIS RESILIA valve is safe and effective in young patients. Early ventricular reverse remodelling is achieved in aortic valve regurgitation. Excellent and stable hemodynamic performances are obtained in young patients regardless of the decades of age.

KEYWORD: e-PD-19

Disclosure Statement

The authors do not declare any conflict of interest.

Table 1. Results

	Baseline MG	Discharge MG	p	30 days MG	p	6 months MG	p	1 year	p	Baseline LVEDV	Discharge LVEDV	p
Aortic stenosis (% , 69,23)	38,8±13	12,3 ± 5	0,01	11,6 ± 3,9	0,31	11,4 ± 3,1	0,68	11,4 ± 3,3	0,61	152,8 ± 66,2	141 ± 47,1	0,1
Aortic Insufficiency(% , 30,77)		10,9 ± 1,3	0,01	9,3 ± 2,7	0,1	9,7 ± 2,8	0,26	10,3 ± 4,7	0,4	210, 1 ± 136,5	171,8 ± 122,6	0,03
Age<55 years (% , 55)	21,2 ± 21,7	12,5 ± 5	0,08	11,6 ± 4,3	0,35	11,8 ± 4,3	0,8	12,2 ± 4,7	0,37	195,57 ± 116,8	169,71 ± 101	0,03
Age>55 years (% , 45)	32,9 ± 19,3	11,3 ± 3,3	0,01	10,2 ± 2,9	0,1	9,9 ± 1,9	0,63	9,9 ± 1,9	0,33	151 ± 74,4	135 ± 54	0,14

MG = Mean gradient pressure, mmHg; LVEDV = Left ventricle end diastolic volume, ml.