

CLINICAL AND ECHOCARDIOGRAPHIC FOLLOW-UP IN PATIENTS WITH SUTURELESS PERCEVAL BIOPROSTHESIS: SINGLE CENTER ANALYSIS IN 11 YEARS EXPERIENCE

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Objective

We describe long-term clinical and echocardiographic follow-up in the largest single center cohort of patients underwent aortic valve replacement (AVR) with sutureless Perceval (CorCym, Italy) bioprosthesis.

Tab. 2 Operative data

Variables	Overall n = 1237
Valve size	S (n=300) M (n=454) L (n=403) XL (n=80)
Surgical approach	
- Sternotomy	347
- Ministernotomy	221
- Minithoracotomy	669
REDO	85
ACC time, mean $\pm$ SD (min) for isolated AVR	50.1 $\pm$ 10.5
CPB time, mean $\pm$ SD (min) for isolated AVR	80.6 $\pm$ 21.5

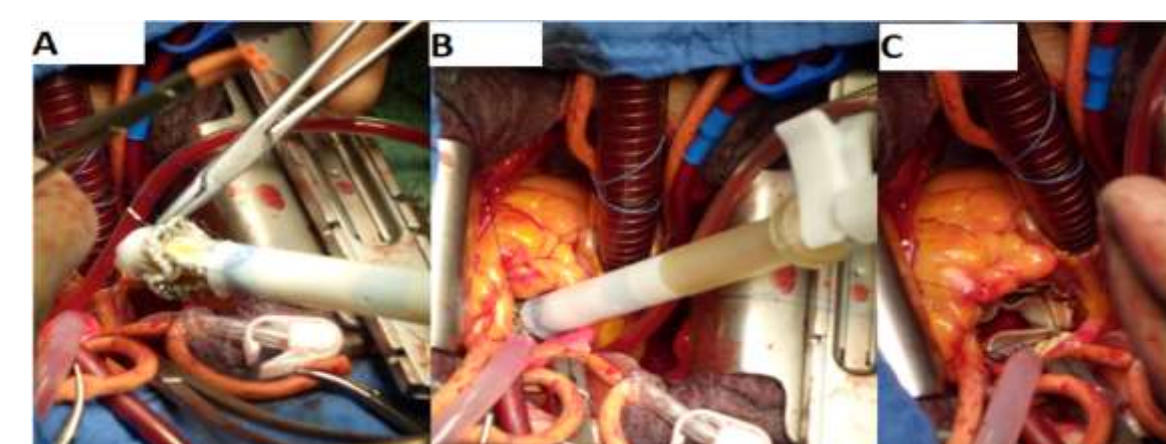


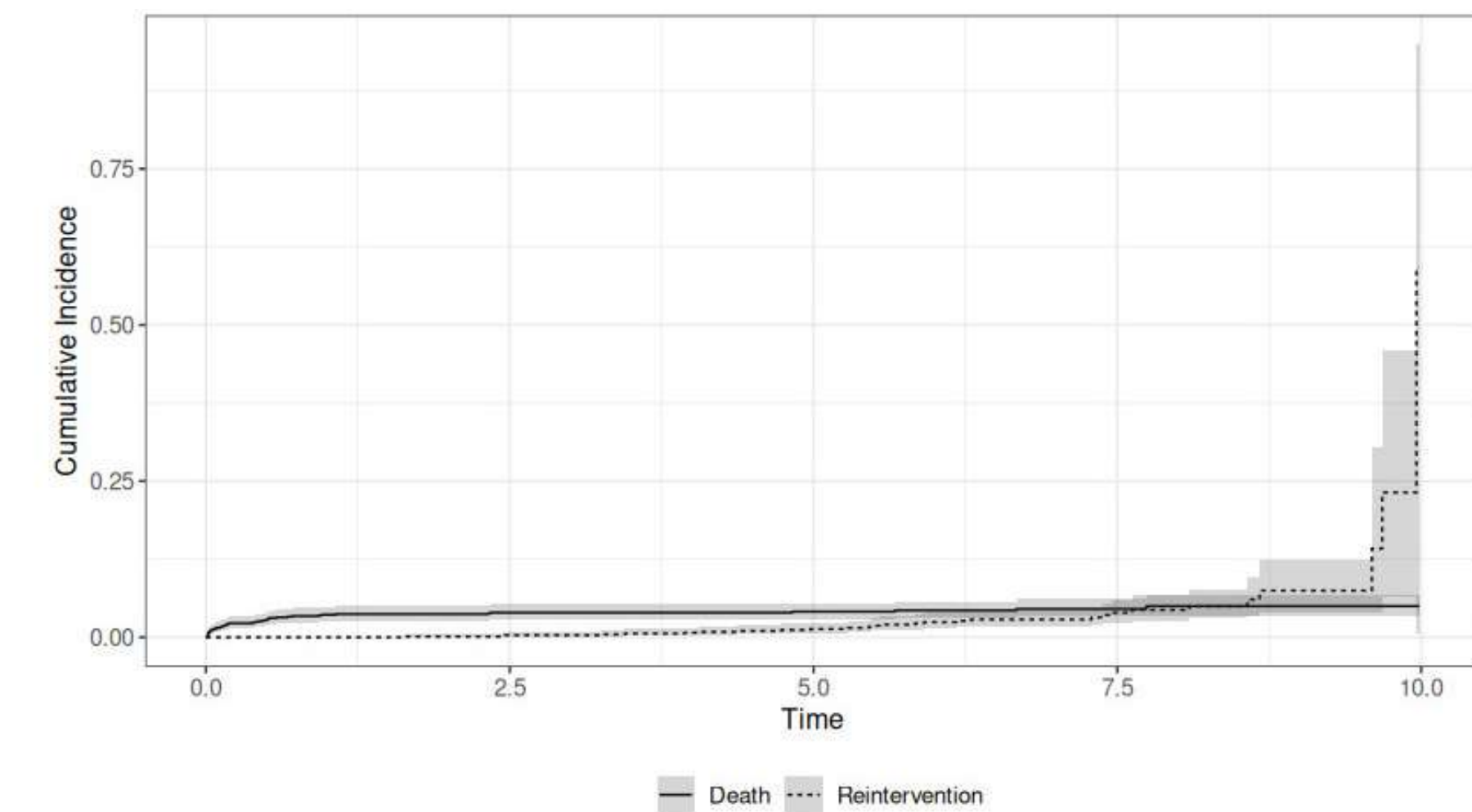
Fig. 1 Perceval bioprosthesis and implantation technique

Tab.1 Baseline clinical characteristics

Variables	Overall n = 1237
Age, mean, years	78 $\pm$ 4
Sex, female (%)	63
Hypertension (%)	72
Diabetes (%)	24
COPD (%)	14
Hyperlipidemia (%)	51
Vascular disease (%)	18
Log.EuroSCORE, mean, (%)	6.9 $\pm$ 2.8%

Between March 2011 and September 2022, 1237 patients underwent AVR with Perceval bioprosthesis implantation. Mean age was 78 $\pm$ 4 years and mean EuroSCORE II was 6.9 $\pm$ 2.8%. Concomitant procedures were performed in 272 patients (22%).

Figure 3. Freedom from reintervention.



Results

Thirty-day mortality was 1.37% (17/1237). 890 of 951 (93.5%) isolated AVR underwent minimally invasive surgery with a ministernotomy (n = 221) or right minithoracotomy (n = 669) approach. Cardiopulmonary bypass and aortic cross-clamp times were 80.6 $\pm$ 21.5 and 50.1 $\pm$ 10.5 minutes for isolated AVR and 145.8 $\pm$ 33.6 and 95.8 $\pm$ 20.7 minutes for combined procedures. At mean follow-up of 55.09 $\pm$ 6.7 months (range: 1-138.5 months), survival was 95.4% and mean transvalvular pressure gradient was 13.3 $\pm$ 4.2 mmHg. LV mass decreased from 153.5 g/m2 to 114.6 g/m2 (p< 0.001) and moderate paravalvular leakage occurred in 3 patients without hemolysis not requiring any treatment. Freedom from reoperation was 97.4%. Nine patients required surgical reintervention and 21 patients transcatheter valve-in-valve procedure for structural prosthesis degeneration at mean of 6.3 years after first operation (range: 2-10 years)

Methods

Tab. 3 Echocardiographic follow-up

Variables	Preoperative	At discharge	At follow-up
LVEF, mean $\pm$ SD, (%)	56.2 $\pm$ 8.8	55.1 $\pm$ 8.7	56.1 $\pm$ 8.3
Mean pressure gradient, mean $\pm$ SD, (mmHg)	54.9 $\pm$ 19.4	14.2 $\pm$ 5.2	13.3 $\pm$ 4.2
Paravalvular leakage			
Moderate		5 pts.	3 pts.

Conclusions

AVR with Perceval bioprosthesis is associated with good clinical results and excellent hemodynamic performance in our eleven-years experience. Structural degeneration rate of Perceval is comparable with others bioprosthetic aortic valve. Sutureless technology may reduce operative time especially in combined procedures and enable minimally invasive AVR.

References

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