

Predictors of permanent pacemaker requirement after transcatheter aortic valve implantation: Insights from a Brazilian Registry

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Abstract

Background

The aim of this study is to evaluate the predictors of permanent pacemaker (PPM) implantation after TAVI.

Methods

Between January 2008 and February 2012, 418 patients with severe aortic stenosis underwent TAVI and were enrolled in a Brazilian multicenter registry. After excluding patients who died during the procedure and those with a previous PPM, 353 patients were included in the analysis.

Results

At 30 days, the overall incidence of PPM implantation was 25.2%. Patients requiring PPM were more likely to be older (82.73 vs. 81.10 years, $p = 0.07$), have pre-dilation (68.42% vs. 60.07%, $p = 0.15$), receive CoreValve (93.68% vs. 82.55%, $p = 0.008$), and have baseline right bundle branch block (RBBB, 25.26% vs. 6.58%, $p < 0.001$). On multivariable analysis, CoreValve vs. Sapien XT (OR, 4.24; 95% CI, 1.56–11.49; $p = 0.005$), baseline RBBB (OR, 4.41; 95% CI, 2.20–8.82; $p < 0.001$), and balloon pre-dilatation (OR, 1.75; 95% CI, 1.02–3.02; $p = 0.04$) were independent predictors of PPM implantation.

Conclusion

PPM implantation occurred in approximately one-fourth of cases. Pre-existing RBBB, balloon pre-dilatation, and CoreValve use were independent predictors of PPM after TAVI. The type of prosthesis used and pre-balloon dilatation should be considered in TAVI candidates with baseline RBBB.

Keywords:

[Transcatheter aortic valve implantation](#), [Pacemaker](#), [Transcatheter aortic valve implantation complications](#)