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Mid-term clinical outcomes of biodegradable polymer everolimus-eluting stents compared with durable polymer everolimus-eluting stents: a propensity-matched study

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Background / Introduction: Several studies have reported that durable polymer drug-eluting stents could cause delayed healing and late catch-up. Although biodegradable polymer everolimus-eluting stents (BP-EES) might solve these problems, there is few data about mid-term clinical outcomes of BP-EES compared with durable polymer everolimus-eluting stents (DP-EES).

Purpose: This study aimed to compare mid-term clinical outcomes between BP-EES and DP-EES.

Methods: Between January to December 2016, 206 consecutive patients were treated with BP-EES and 177 consecutive patients were treated with DP-EES in our Heart Center. The primary endpoint was 3-year cumulative incidence of target lesion failure (TLF) defined as cardiac death, target vessel-related myocardial infarction and clinical-driven target lesion revascularization. Moreover, clinical-driven target vessel revascularization (TVR) and definite stent thrombosis (ST) were also evaluated.

Results: After propensity score matching, 160 patients were selected in each group. At 3 years, the cumulative incidences of TLF were 4.1% in BP-EES group vs. 7.9% in DP-EES (p = 0.12). Similarly, those of clinical-driven TVR were not different between the 2 groups (10.9% vs. 8.0%, p = 0.39). The incidence of definite ST in BP-EES tended to be higher than in that of DP-EES (BP-EES vs. DP-EES; 0% vs. 1.8%, p = 0.06).

Conclusions: There were no significant differences of TLF between BP-EES and DP-EES within 3 years. In this study, BP-EES seems to prevent definite ST and be safer than DP-EES in mid-term.
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