Comparison of the Absorbable Polymer Sirolimus-Eluting Stent (MiStent) to the Durable Polymer Everolimus-Eluting Stent (Xience) (from the DESSOLVE I/II and ISAR-TEST-4 Studies).

We compared the outcomes of a novel, thin-strut, cobalt-chromium, absorbable, polymer sirolimus-eluting stent (APSES; MiStent) to the durable polymer cobalt-chromium everolimus-eluting stent (EES; Xience). A propensity-matched analysis was performed comparing data from the DES With Sirolimus and a Bioabsorbable Polymer for the Treatment of Patients With De Novo Lesions in the Native Coronary Arteries (DESSOLVE) I and II studies, evaluating the APSES to the EES arm of the Intracoronary Stenting and Angiographic Results: Test Efficacy of 3 Limus-Eluting Stents-4 study. Target lesion failure (TLF) and its components were evaluated at 12 months and annually to 3 years; 805 patients (APSES = 153; EES = 652) were included with propensity matching in 204 patients (APSES = 102; EES = 102). APSES compared with EES had lower TLF at 1 year (3.0% vs 8.0%, p = 0.12) driven by a difference in target lesion revascularization (TLR; 1% vs 6%, p = 0.05), with no difference in target vessel myocardial infarction (p = 0.56) or stent thrombosis (p = 0.31). At 3 years, TLF (5.0% vs 12.5%, p = 0.07) and TLR (2.0% vs 8.4%, p = 0.04) remained lower with APSES. By landmark analysis, there was no significant difference in TLF between 1...
and 3 years (p = 0.36). In conclusion, in a propensity-matched analysis, the APSES demonstrated reduced clinically indicated TLR rates at 1 and 3 years compared with the durable polymer EES, with minimal accrual of events between 1 and 3 years.