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Patient selection to enhance the long-term benefit of first generation drug-eluting stents for coronary revascularisation procedures. Insights from a large multicentre registry.

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AIMS: To evaluate the long-term clinical outcome after drug-eluting stents (DES) implantation, and to test if patient selection could enhance their net clinical benefit. METHODS AND RESULTS: We assessed the incidence of major adverse cardiac events (MACE=death, acute myocardial infarction, and target vessel revascularisation, TVR) and angiographic stent thrombosis (ST) during 3-year follow-up in a prospective multicentre registry. Propensity-score analysis to adjust for different clinical, angiographic and procedural characteristics was performed. Overall, 14,115 patients enrolled in the registry received solely BMS (n=9,565) or DES (n=4,550). The incidence of definite ST was 0.6% for BMS and 1.3% for DES (p=0.003). The propensity-score adjusted incidence of cardiac death and myocardial infarction was similar between the two groups (DES 11.9% vs. BMS 12.1%, HR 0.90, 95% CI 0.77-1.04), whereas DES were associated with lower rates of TVR (DES 11.6% vs. BMS 15.2%, HR 0.67, 95% CI 0.59-0.76). The efficacy of DES in reducing TVR increased with increasing likelihood of TVR at baseline. CONCLUSIONS: The beneficial effect of DES in reducing new revascularisations compared to BMS extends out to three years without a significantly worse overall safety profile. The benefit seems more evident in patients with the highest baseline risk of clinical restenosis.