Drug-eluting stents versus bare-metal stents in diabetic patients with ST-segment elevation acute myocardial infarction: a pooled analysis of individual patient data from seven randomized trials.

INTRODUCTION AND OBJECTIVES: The performance of drug-eluting stents (DESs) in high-risk patients with diabetes and acute ST-elevation myocardial infarction (STEMI) who have undergone primary angioplasty has not been previously studied. The objective was to evaluate the efficacy and safety of DESs in diabetic patients with STEMI. METHODS: We performed a pooled analysis of individual patient data from seven randomized trials that compared DESs (i.e., sirolimus- or paclitaxel-eluting stents) with bare-metal stents (BMSs) in patients with STEMI. The analysis involved 389 patients with diabetes mellitus from a total of 2476 patients. The outcomes of interest were target-lesion revascularization, stent thrombosis, death and the composite endpoint of death or recurrent myocardial infarction during a follow-up of 12-24 months. RESULTS: Overall, 206 diabetic patients received a DES and 183, a BMS. The risk of target-lesion revascularization was significantly lower in patients treated with a DES compared to those treated with a BMS (hazard ratio [HR] 0.44, 95% confidence interval [CI] 0.23-0.88; P=.02). There was no significant difference in the risk of stent thrombosis between those
treated with a DES or a BMS (HR 0.33, 95% CI 0.09-1.13; P=.08). Similarly, the risk of the combined endpoint of death or myocardial infarction was not significantly different between patients treated with a DES or a BMS (HR 0.64, 95% CI 0.36-1.13; P=.12). CONCLUSIONS: Compared with BMSs, DES use improved clinical outcomes in diabetic patients undergoing primary angioplasty for STEMI: the need for reintervention was reduced, with no increase in mortality or myocardial infarction.