Clinical outcomes with drug-eluting stents, bare-metal stents, and bioresorbable scaffolds implanted in patients with AMI treated with primary PCI. Data from the Prague-18 trial

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Background: Drug-eluting stents (DESs) are the recommended choice of stents for primary PCI.

Purpose/Methods: The study aimed to determine why interventional cardiologists used non-DESs and how they had influenced the patient prognosis. The efficacy and safety outcomes of the different stents were also compared in treated with either prasugrel or ticagrelor.

Results: Of the PRAGUE 18 study patients, 749 (67.4%) were treated with DESs, 296 (26.6%) with BMS, and 66 (5.9%) with BVS. Cardiogenic shock at presentation and the left main disease, especially as culprit lesion, and right coronary artery stenosis were the reasons for BMS selection.

The incidence of the primary net-clinical EP (CV death, nonfatal MI, stroke, major bleeding, or revascularization) at 7 days was 2.6% vs. 6.5%, and 3.0% in the DESs, BMSs, and BVSs, respectively (HR 2.7; 95% CI 1.419–5.15, P=0.002 for BMS vs. DES and 1.25 (0.29–5.39) for BVS vs. DES, P=0.76). Patients with BMSs were at higher risk of death at 30 days (HR 2.20; 95% CI 1.01–4.76; for BMS vs. DES, P=0.045), and at one year (HR 2.1; 95% CI 1.19–3.69; P=0.01); they also had higher composite of cardiac death, re-MI and stroke (HR 1.66; 95% CI 1.0–2.74; P=0.047) at one year. BMSs were associated with significantly higher rate of primary EPs either treated with prasugrel or ticagrelor.

Conclusion: Patients with the highest risk profile were preferably treated with BMS the contrary to BVS. BMSs were associated with a significantly higher rate of cardiovascular events either treated with prasugrel or ticagrelor.