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2-Year Outcomes of the First and the Second Generation Drug-eluting Stent Implantation for Left Main Coronary Artery Bifurcation Lesions.

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Purpose: To investigate the clinical outcomes of drug-eluting stent (DES) implantation for unprotected left main coronary artery (ULMCA) bifurcation lesions with 1st generation DES and 2nd generation DES.Methods and results: This is a single center, retrospective study. Between April 2007 and April 2013, a total of 10755 percutaneous coronary intervention (PCI) were performed in our hospital. Among these, we performed elective DES implantation for 190 stable angina patients with de novo ULMCA bifurcation lesions. 67 Sirolimus-eluting stents (SES), 17 Paclitaxel-eluting stents (PES), 20 Zotarolimus-eluting stents (ZES), 57 Everolimus-eluting stents (EES) and 29 Biolimus A9-eluting stents (BES) were implanted. We compared the clinical outcomes of 1st generation DES (SES and PES ; 84 patients) with 2nd generation DES (ZES, EES and BES ; 106 patients). The main end point was the occurrence of major adverse cardiac events (MACE). Stent patency was assessed by either coronary arteriography or coronary CT angiography. Clinical outcomes were analyzed by Kaplan-Meier estimation. 1st generation DES and 2nd generation DES were followed up for 1079±673 days and 547±377 days. The two study groups did not differ significantly in all MACE (14.3% vs 8.7%, p=0.27) and target lesion revascularization (8.7% vs 5.1%, p=0.39) at 2 year after PCI.Conclusions: 2nd generation DES offers no significant advantage over 1st generation DES in long-term outcomes after ULMCA bifurcation stenting.