ANGIOSCOPIC ASSESSMENT OF EARLY PHASE ARTERIAL REPAIR AFTER PACLITAXEL-COATED NITINOL DRUG-ELUTING STENT IMPLANTATION IN THE SUPERFICIAL FEMORAL ARTERY

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Background: Paclitaxel-coated nitinol drug-eluting stents (DES, Zilver PTX) are now available for the treatment of patients with peripheral artery disease in the superficial femoral artery (SFA). Although, durable clinical outcomes have been clinically reported, arterial repair after DES implantation in the SFA remains to be studied.

Methods: Angioscopic evaluation was performed in SFA intra-stent surfaces 70±10 days or 80±16 days following DES (16 stents in 9 patients, mean age 71±10 years, 44% men) or bare metal stent (BMS, 8 stents in 8 patients, mean age 70±6 years, 50% men) implantation, respectively. Neointimal coverage (NIC) was graded: grade 0, stent struts exposed; grade 1, struts bulged into the lumen, although covered; grade 2, struts embedded by the neointima, but translucent; grade 3, struts fully embedded and invisible. NIC was defined as heterogeneous when the NIC grade variation was ≥1. Presence of yellow plaques underneath the stent and existence of thrombus were also explored.

Results: Dominant NIC was significantly different between DES and BMS (P=0.006, see Figure). NIC heterogeneity (56% versus 88%, P=0.14), and proportion of presence of yellow plaques (75% versus 75%, P=0.70) or thrombus (75% versus 63% in, P=0.43) were not different between DES and BMS.

Conclusions: Early phase arterial repair was different between DES and BMS. Continued arterial repair was apparent 2 to 3 months after DES implantation in the SFA.