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**Results of percutaneous coronary intervention in De-Novo lesions with second-generation drug coated balloons at a long-term follow-up.**

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Introduction: Drug coated balloons currently constitute one of the therapeutic tools used in percutaneous coronary interventions (PCI) of "De novo" coronary lesions, mainly in bifurcations and small vessels. Nowadays, their results at a long-term follow up are unclear.

Purpose: To evaluate the efficacy and safety of second-generation paclitaxel coated balloons (PCB) in "De novo" coronary lesions at a long term follow-up.

Methods: We prospectively included 170 lesions in 160 patients (67.6 ± 12.1 years, 71.9% male) with "De novo" lesions treated with PCB between March 2009 and April 2017. Additional bare metal stent (BMS) or drug eluting stent (DES) was implanted after PCB if the result was not satisfactory because of dissection, recoil or significant residual stenosis. We evaluated the presence of major cardiac events (MACE) after a clinical follow up (median 29.5 months): death, nonfatal myocardial infarction (MI), target lesion revascularization (TLR) and thrombosis.

Results: 42.8% of the patients had stable coronary artery disease, and 57.2% acute coronary syndromes (42.1% non-STEMI and 15.1% STEMI). 47.4% of patients were diabetic, 75% had hypertension and 49.31% had dyslipidemia. 32% of lesions were bifurcations, 25.7% diffuse and 42.9% type B2/C lesions. Mean vessel diameter were 2.5 ± 0.7 mm and mean length 19.1 ± 8 mm. 77.5% of lesions were treated with PCB, 16.7% with PCB and BMS and 5.9% with PCB and DES. Angiographic success rate was 99.4%. There were no significant differences regarding baseline characteristics of these three groups neither in the MACE rate after the follow-up (p=0.5). Death rate was 5.1% (1.9% cardiovascular death, 3.2% non-cardiovascular death), nonfatal MI rate was 3.9% and TLR rate was 0.6% during follow-up. No cases of thrombosis were observed, immediately after the procedure nor during follow-up. We did not observe a higher need for additional stent after PCB in complex lesions (p=0.6) such as diffuse lesions (p=0.9) and bifurcation lesions (p=0.7). 16.2% of patients had an angiographic follow-up.

Conclusions: Percutaneous coronary intervention of "De novo" coronary lesions with second-generation paclitaxel eluting balloon offers very favorable results at a long-term follow up. There was not a higher need for additional stent in cases of diffuse and bifurcated lesions.