RESULTS 31% of patients had stable coronary artery disease and 68.9% acute coronary syndromes (49.4% Non-STEMI and 19.5% STEMI). 46% of patients were diabetic. 48.3% of lesions were bifurcations, 17.2% diffuse and 52.8% type B/C. Mean vessel diameter and length were 2.43 ± 0.35 mm and 16.03 ± 5.6 mm, respectively. 77% of the lesions were treated with PEB, 19.5% with PEB and BMS and 3.9% with PEB and DES. There were no significant differences regarding baseline characteristics of these three groups neither in the MACE rate after a long-term follow-up (p=0.5). During follow-up, 6 patients died (1 cardiovascular and 5 non-cardiovascular deaths) and a TLR rate of 2.9% was observed. Two cases of non-fatal myocardial infarction (2.3%) and no cases of thrombosis were observed, immediately after the procedure or during follow-up. 16.1% of patients had angiographic follow-up. We did not observe a higher need for additional stent after PEB in complex lesions such as diffuse lesions (p=0.7) and bifurcations (p=0.7). However a higher MACE rate at 5 years was observed in bifurcations and ostial lesions.

CONCLUSIONS Percutaneous interventions of “De Novo” coronary lesions with Sequent Please® PEB offers very favorable results at a very long-term follow up. There was not a higher need for additional stent in cases of diffuse and bifurcated lesions.

CATEGORIES CORONARY: Drug-Eluting Balloons and Local Drug Delivery

TCT-412 First report on the angiographic and OCT findings of combining paclitaxel coated balloon with an everolimus eluting stent in a porcine model

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BACKGROUND There has been much interest in the use of paclitaxel coated balloon (PCB) only angioplasty in de novo coronary lesions. In certain clinical situations such as bifurcation, recoil or major dissection after PCB deployment an additional stent may be implanted to support vessel patency. The consensus opinion is to use a bare metal stent (BMS) instead of a drug eluting stent to cover the PCB treated segment. This may avoid the unknown effect of combining paclitaxel with a limus agent. We designed a porcine model to compare the angiographic and optical coherence tomography (OCT) findings of implanting an everolimus eluting stent (EES) in the same segment of the coronary artery pre-treated with a PCB (paccotac cath as carrier) with EES alone and PCB plus BMS.

METHODS 7 female swine averaging 46.0±2.4 kg were studied. Under general anesthetic, the 3 coronary arteries of each animal were randomly implanted with: 1. PCB (3.0 by 15mm) followed by EES (3.0 by 8mm); 2. PCB (3.0 by 15mm) followed by BMS (3.0 by 8mm) and 3. EES (3.0 by 8mm) alone. Quantitative coronary angiography (QCA) and OCT were carried out post implantation. QCA and OCT were repeated after 28±1 days.

RESULTS All arteries remained patent and demonstrated no sign of thrombus formation on angiogram or OCT. The was no difference in lumen loss at 1 month between the 3 treatment groups (0.52±0.36mm, 0.45±0.44mm and 0.30±0.24mm for EES, PCB+EES and PCB+BMS respectively, p=0.54). There was no difference in diameter stenosis at 1 month (8.2±11.88%, 4.14±12.97% and 4.80±17.65% for EES, PCB+EES and PCB+BMS respectively, p=0.71). The mean endothelial area measured by OCT at 1 month was 158.8±0.83mm², 94.5±0.19mm² and 0.37±0.23mm² for EES, PCB+EES and PCB+BMS respectively, p=0.064.

CONCLUSIONS The combination of PCB with EES appeared to be safe and effective compared to EES alone. There is a trend to suggest the combination of PCB with EES may be more effective in suppressing neointimal hyperplasia than using EES as observed in the lower endothelial area measurement. Using EES to bail out suboptimal PCB therapy appeared to be safe and effective in the porcine model. Further histological analysis and larger cohort may provide more information on this treatment strategy.

CATEGORIES CORONARY: Drug-Eluting Balloons and Local Drug Delivery

KEYWORDS Drug-eluting balloon, Drug-eluting stent, everolimus, Porcine coronary artery