ABSENCE OF DOWNSTREAM MYOCARDIAL EFFECTS AFTER TREATMENT OF PORCINE CORONARY ARTERIES WITH A NOVEL PACLITAXEL COATED SCORING BALLOON CATHETER

i2 Poster Contributions
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Background: Preclinical and clinical studies have demonstrated a reduction of restenosis by drug coated balloons (DCB). Potential adverse myocardial effects by distal embolization of paclitaxel particles have been suggested. The AngioSculpt Scoring Balloon (SC) is associated with improved acute Results: A drug coated SC (DCSC) might facilitate drug delivery to the vessel wall. The aim of the present study was to investigate the effect of varying the DCSC dose on downstream myocardial effects in the porcine coronary model.

Methods: Applying modest balloon overstretch, the left anterior descending and circumflex coronary arteries of 37 domestic were treated with 60 sec inflations of uncoated SC and DCSC with a paclitaxel dose of 1.5, 3, 6, and 2x6 μg/mm² followed by a bare metal stent. Measurement of left ventricular function (LV-EF) was performed at baseline and 28 d. Histopathology of the myocardium was evaluated at 28 d.

Results: Changes in LV-EF from baseline to 28 d follow-up were similar in all doses of DCSC and uncoated SC. Histopathology of the myocardium revealed slightly more vasculitis and localized myocardial scar in animals treated with DCSC; findings were slight or mild with no pronounced dose dependency.

Conclusion: Compared to uncoated SC, use of DCSC does not lead to adverse distal myocardial effects in the porcine coronary stent model with paclitaxel doses ranging between 1.5 and 2x6 μg/mm².