

e0710 IS THERE ANY ANATOMIC BASIS FOR OFF LABEL USE OF CORONARY ARTERY STENT IN RENAL ARTERY IN SWINE?

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Objective Coronary drug-eluting stents have been implanted in small renal arteries (<5.0 mm) to reduce restenosis. The aim of this study is to investigate the anatomic basis for off label use of coronary stent in renal artery in swine.

Methods Nine animals were examined in this study. Paired segments of coronary and renal artery were sampled from the same animal. Tunica media circumference referred to length of demarcation between tunica media and adventitia. Area of intima and tunica media was the area between intima circumference and tunica media circumference. Wall thickness (from intima to tunica media) was calculated as mean of four measurement in different directions. Inner diameter was calculated as intima circumference/ π . Corrected wall thickness was calculated as wall thickness/inner diameter $\times 100$.

Results Intima circumference and inner diameter were not significantly different between coronary and renal arteries. Tunica media circumference (7.00 \pm 0.73 mm vs 8.30 \pm 0.48 mm), wall thickness (0.34 \pm 0.05 mm vs 0.50 \pm 0.11 mm), area of intima and tunica media (2.09 \pm 0.41 mm² vs 3.38 \pm 0.73 mm²), and corrected wall thickness (21.4 \pm 1.96 vs 32.0 \pm 9.70) were significantly less in coronary arteries than renal arteries.

Conclusion It seems that muscle layer in renal artery is stronger than coronary artery. Renal artery needs stronger radial force than coronary artery. The off label use of coronary stent in renal artery might be inappropriate.

e0711 LONG TERM FOLLOW-UP OF PATIENTS WITH SIROLIMUS ELUTING STENT IMPLANTATION IN SMALL DIAMETER RENAL ARTERY

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Objective To investigate the safety and efficacy of sirolimus eluting stent implantation in small diameter renal artery.

Methods 32 sirolimus eluting coronary stent (3.0~4.0 mm) were implanted in 26 patients with hypertension. Patients were followed for a median of 12 months with measurements of blood pressure, serum urea nitrogen and serum creatinine, duplex sonography and intra-arterial angiography.

Results Initial technical success was achieved in all patients. Renal artery dissection occurred in one patients after stent implantation. During follow up, amelioration of blood pressure was achieved in six patients (23.1%), amelioration of renal dysfunction was achieved in three patients (11.5%), deterioration of renal dysfunction occurred in three patients (11.5%). In-stent restenosis occurred in two patients, one found by angiography at the 10th month after stent implantation, another by duplex sonography at the 16th month after stent implantation.

Conclusion Implantation of sirolimus eluting coronary stents in small diameter renal artery is technically feasible with efficacy and safety. Although there was no in-stent restenosis during the first 6 months after stent implantation, in-stent restenosis could occur later. Patients with sirolimus eluting coronary stent implantation in small diameter renal artery should be followed for more than one year.

e0712 ACTINOBACILLUS ACTINOMYCETEMCOMITANS INFECTION EXACERBATES MYOCARDIAL ISCHAEMIA-REPERFUSION INJURY IN MICE

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Background Recent epidemiologic evidence suggests that periodontal infection may increase the risk of atherosclerosis and acute thromboembolic events. The present study investigated the contribution of the major periodontal pathogen, *Actinobacillus actinomycetemcomitans* (A.a.), on myocardial inflammation and injury after ischaemia-reperfusion (I/R).

Methods and Results Male C57Bl/6J mice were subjected to 30 min of coronary ligation, followed by 7 days of reperfusion. Either live A.a. (10⁸ CFU) or saline was administered intravenously for 2 days before surgery. A.a.-challenged mice showed significantly larger infarction (53% \pm 6%) compared with control mice (36% \pm 3%) (p<0.05), given similar areas at risk (64% \pm 6%; vs 63% \pm 2%). A.a.-inoculated mice also exerted more interstitial fibrosis.

Conclusion Taken together, these data demonstrate that systemic challenge with *A. Actinomycetemcomitans*, a major periodontal pathogen, may exacerbate myocardial ischaemia/reperfusion injury.

e0713 EVALUATING SUCCESSFUL ABLATION OF SCAR-RELATED ATRIAL TACHYCARDIA ORIGINATING AT LATERAL WALL OF RIGHT ATRIUM WITH A NEW METHOD: STRATEGIC LINEAR ABLATION TO SCAR AREA ISOLATION

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Background Scar-related Intra-atrial re-entrant tachycardias (IARTs) located at lateral wall of right atrium are common late after cardiac surgery in which right lateral atriotomy was performed, and also occurred in some patients without prior atriotomy. Conventional mapping and ablation is relatively difficult because of the complicated anatomy and multiple potential re-entry loops.

Objective The study aims to investigate a new method of strategic linear ablation to isolation of scar area from right lateral wall for successful ablation of scar-related atrial tachycardia originating at lateral wall of right atrium.

Methods Four patients had AT related to myocardial scar or incision located at lateral wall of right atrium underwent the electrophysiological study and RF catheter ablation. Earliest activation combined with entrainment mapping was adopted to determine a critical isthmus. Scar area isolation from right lateral wall was performed by linear ablation along cavotricuspid isthmus, from the scar to crista terminalis and to the inferior vena cava (IVC), from the scar to the tricuspid annulus.

Results Fifteen IARTs was induced in all of four patients. Four of 15 atrial tachycardias (ATs) were intra-scar reentry AT, three typical atrial flutter (AFL), two double loop reentry tachycardia (DLR) around superior vena cava (SVC) and inferior vena cava (IVC) respectively, four upper loop reentry tachycardia (ULR) around SVC, two lower loop reentry tachycardia (LLR) around IVC. The reentry loops of all ATs were related with scar area. The mean tachycardia cycle length was 268.1 \pm 49.5 ms. In all patients, linear ablations along cavotricuspid isthmus, from scar area to crista terminalis and to IVC, were performed. Linear ablation from scar area to tricuspid annulus was performed in one patient. Isolation of scar area from