procedure and cardiac death. Currently there are no established diagnostic or treatment guidelines. We aimed to report the clinical presentation, diagnosis, treatment and outcomes of all cases described in literature for post-TAVR thrombosis.

METHODS We systematically search Pub Med, Embase and Cochrane database for all cases described for post-TAVR thrombosis. We report patient's age, sex, type and size of valve used, type of anti-platelet regimen post TAVR, time since TAVR implantation, clinical presentation upon diagnosis, mean peak gradient, treatment used and clinical outcomes.

RESULTS A total of 14 studies reported a total of 25 cases of post-TAVR thrombosis. Mean age was 78±8 years, 53% were men, mean time since TAVR was 8.3±5.6 months. Majority of patients were discharged on dual anti-platelet therapy (DAPT) (53%). Majority of them presented with NYHA class III (54%) upon diagnosis. Diagnostic echocardiogram disclosed mean peak gradient of 45±13.2 mmHg. The majority of them were treated with oral-anti-coagulant (60%). There were 6 deaths reported (22%) (Table 1).

CONCLUSION Post-TAVR thrombosis is not commonly seen after TAVR and it can be initially under diagnosed. Majority of these patients present with significant symptoms and echocardiogram findings consistent with increased mean peak gradient. It is associated with high mortality rate. Further studies for advanced diagnosis and treatment should be pursued.

CATEGORIES STRUCTURAL: Complications

TCT-651

Novel, preclinical model of aortic banding for evaluation of implantation feasibility and long term durability of transcatheter aortic valves

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BACKGROUND Animal models of transcatheter aortic valve implantation (TAVI) are limited to evaluation of device acute performance due to lack of underlying calcific aortic valve disease and anchoring mechanism. Early dislocation of the device is very common and disables assessment of long term performance, durability and biological response. Herein we present novel model aortic banding followed by TAVI implantation.

METHODS Surgical ascending aortic banding was performed in 57 domestic sheep via minimal lateral thoracotomy. The 10-20% diameter stenosis with surgical tape of ascending aorta between sinotubular junction and brachiocephalic trunk was performed. 16 animals died during periprocedural period. Two weeks later 46 TAVI procedures via surgical cutdown of the carotid artery was performed utilizing 22 or 24 French delivery systems. In total, 15 biological (MyVal, Merill Lifesciences, Vapi, India) 18 polymer and 13 biological leaflet valves (Inflow, The CardValve Consortium, Poland) were implanted.

RESULTS Device anchoring was successful in all animals and acute valve functionality was achieved in all cases. Five animals died within 7 days period, all of them with underexpansion caused by 20-30% banding obstruction (15-16 mm) which led to significant gradient through prosthesis and left ventricle overload. Remaining animals with 18-20 mm obstruction and proper valve expansion survived. At 28 day follow up the TAVI survival was 89% and 71,9% from both procedures. Good valve functionality and anchoring in transthoracic echocardiography was confirmed. Fast learning curve was observed. The terminal follow up is planned up to 6 months with pathological evaluation.

CONCLUSION The ovine TAVI aortic banding model is the first which showed fully predictable TAVI valve anchoring, low mortality and ability to perform long term observation. Implantation was successful in all cases and the early mortality was observed in the first half of the studied group with tight banding. After adjustment there was no animal mortality in consecutive 6 animals.

CATEGORIES OTHER: Pre-Clinical/First In-Human Studies

CORONARY CALCIFICATION - II

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TCT-652

Coronary Artery Calcium Score in Predicting Periprocedural Myocardial Infarction in Patients Undergoing Elective Percutaneous Coronary Intervention

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BACKGROUND This study aimed to evaluate whether coronary artery calcium score (CACS) measured with computed tomography coronary angiography (CTCA) predicts periprocedural myocardial infarction (PMI) in patients undergoing elective percutaneous coronary intervention (PCI).

METHODS A total of 197 patients with stable angina underwent elective PCI after CTCA. We evaluated CACS using CTCA and assessed the clinical risk factors for PMI. PMI was defined as an elevation of troponin I levels, exceeding five times the upper limit of normal within 24 hours after PCI. Patients were followed up for major adverse cardiovascular events (MACE) for a median of 4.6 years.

RESULTS The prevalence of PMI was 18.7% (37 patients) and patients with PMI showed a trend towards a higher CACS (721±779 vs. 498±842, P = 0.142). PMI prevalence showed a positive correlation with CACS distribution (8.0%, 1st interquartile range (IQR); 14.3%, 2nd IQR; 22.4%, 3rd IQR; 30.6%, 4th IQR; P = 0.002). The CACS cutoff value for PMI was >113 (area under the curve: 0.670; 95% confidence interval (CI): 0.600–0.736; P <0.001). Patients with CACS >113 before PCI showed a higher prevalence of PMI (26.2% vs. 5.6%, odds ratio (OR) 5.994, P <0.001). Multivariate analysis demonstrated that CACS >113 was the main predictor for PMI (OR 3.61, 95% CI: 1.145-11.363, P = 0.028). In this study, the cumulative incidence of MACE was higher in patients with PMI (54.1% vs. 10.6%, P <0.001).

CONCLUSION This study suggests that high CACS measured with CTCA influences PMI occurrence, which is associated with worse cardiovascular outcomes.

CATEGORIES CORONARY: Complications

TCT-653

Acute/mid-term results of Drug Coated Balloon following Rotational Atherectomy

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BACKGROUND Rotational Atherectomy (RA) is effective for severe calcified lesions, however most of lesions need adjunctive stenting even in the small vessel. Recent data of Drug Coated Balloon (DCB) for in-stent restenosis and small vessel showed about 15% of restenosis rate. DCB following RA has a possibility of non-stenting strategy of percutaneous coronary intervention (PCI) in small calcified lesions.

METHODS The aim of this study is to indicate acute and mid-term results of PCI with DCB following RA in our center. From October 1th, 2014 to April 30th, 2018, 3422 coronary lesions were treated. RA was used in 496 lesions (14%). 160 lesions (32%) were treated with DCB following RA. We analyzed procedural and QCA data at acute phase, furthermore clinical and angiographical follow up data