important insights on the process of vessel wall healing after BRS implantation. We sought to evaluate OCT-assessed healing at 6 months after implantation of everolimus eluting BRS in patients treated for acute myocardial infarction (AMI).

METHODS ISAR-Absorb MI is a multicentre, assessor-blind randomized trial comparing outcomes of patients with AMI undergoing treatment with everolimus eluting BRS or conventional everolimus-eluting stents with angiographic surveillance planned for all patients at 6-8 months follow-up. Selected patients who had OCT surveillance (with commercially-available frequency domain OCT imaging) performed at the time of angiographic follow-up were included for the present analysis. Raw data of OCT image acquisitions were collected at four recruiting centres and analysed at a centralized core laboratory. Morphometric analysis of contiguous cross-sections was performed at 1 mm longitudinal intervals within the stented segment using QIvus 3.0.30.0 software.

RESULTS OCT imaging data at post stenting follow-up on a total of 45 patients / stented target lesions at a median of 212 days was available for analysis. Morphometric analysis revealed mean stented length to be 18.85±6.09 mm. Mean minimum lumen area was 5.43±1.98 mm^2, while the minimum stent area was 6.02±1.82 mm^2. Average lumen area was 6.99±2.16 mm^2, while the average stent area was 7.36±2.07 mm2. The total number of frames assessed was 915, with a total of 8,556 visible struts. Overall strut coverage was 98.60%; 0.41% of struts were found to be malapposed. Mean thickness of neointimal coverage was 94.93±31.43 µm, while mean neointimal area was 0.35±0.46 mm2 and mean percentage stenosis was 5.39±6.56%. Four (8.89 %) patients required target lesion revascularization at follow-up.

CONCLUSION In selected patients undergoing OCT imaging at 6-8 months after implantation of everolimus eluting BRS stents for AMI, we observed generally favourable healing characteristics with high rates of strut coverage and low rates of strut malapposition.

CATEGORIES CORONARY: Stents: Bioresorbable Vascular Scaffolds

TCT-410

Reendothelialization after SYNERGY stent and Bioresorbable Vascular Scaffold ABSORB implantation in Acute Myocardial Infarction : COVER-AMI Study

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BACKGROUND Incomplete reendothelialization after a stent implantation is strongly associated with stent thrombosis. Non-randomized preclinical studies have shown a particularly rapid endothelialization after a SYNERGY® EES implantation, which is now widely used. Moreover, vascular response after ABSORB® BVS implantation seems similar to that observed with XIENCE® EES at 1 year but data concerning early reendothelialization remain scarce.

METHODS We designed a randomized, controlled, prospective trial to assess 3 months strut coverage and neointimal response in STEMI patients treated with SYNERGY® EES or ABSORB® BVS.

RESULTS Twenty-two patients were included between July 2016 and February 2017. At 3 months, no significant differences in the angiographic lumen loss were seen in the Absorb and in the Synergy arm (0,20 [± 0,23 mm] vs. 0,10 [± 0,14 mm, p = 0,286] and there were no binary restenosis in both groups. Strut coverage analyzed by OCT showed high reendothelialization rates, with no significant difference regarding uncovered struts rate: 2,9 [± 2,5 %] in the Absorb arm and 5,2 [± 4,9 %] in the Synergy arm (p = 0,203). In stent/scaffold area obstruction was significantly higher in the Absorb group (9,6 [± 4,8 %] vs. 7.0 [± 2,5 %], p < 0,001]). Malapposed area and intraluminal masses area were similar in both groups.

CONCLUSION Primary PCI for culprit lesions in STEMI patients with an ABSORB® BVS or a SYNERGY® stent leaded to a nearly complete healing in both groups but we noticed an higher in stent/scaffold area obstruction with the ABSORB® BVS. However, OCT is better to assess coverage than healing. It will be important in the future to differentiate mature from immature tissue coverage after stent implantation. Finally, ongoing clinical follow-up is waiting at twelve months.

CATEGORIES CORONARY: Stents: Drug-Eluting

TCT-411

Initial experience with sirolimus-eluting magnesium-based bioresorbable vascular scaffold implantation in patients with ST-elevation myocardial infarction.

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BACKGROUND Recent studies have demonstrated favorable clinical outcomes for the sirolimus-eluting magnesium-based bioresorbable vascular scaffold (BVS) MAGMARIS® (Biotronik, Berlin, Germany) in patients with stable coronary artery disease. There are currently no data on its use in patients with ST-elevation myocardial infarction (STEMI). Therefore, we sought to assess safety and efficacy of magnesium-based BVS implantation in the setting of primary percutaneous coronary intervention (PCI) in patients presenting with STEMI to our institution.

METHODS We are conducting a single-center feasibility study of Magmaris® implantation in STEMI patients. Primary endpoints are procedural success and device-oriented composite endpoint including cardiac death, target vessel myocardial infarction and target lesion revascularization as defined by the Academic Research Consortium criteria. This study is intended to obtain data from 25 consecutive STEMI patients undergoing primary PCI with magnesium-based BVS implantation, according to pre-specified inclusion/exclusion criteria.

RESULTS Median age of the first 10 patients included is 42 years [38-49]. Mean number of implanted device is 1.2 ± 0.4, with a mean length of 25 ± 8 mm and mean diameter of 3.35 ± 0.2. So far procedural success is 100% with one case of distal edge dissection requiring a second scaffold implantation, and in-hospital DOCE rate is 0%.

CONCLUSION This is the first reported initial clinical experience of magnesium-based BVS (Magmaris®) implantation in STEMI patients. Preliminary results of this single-center feasibility study seem reassuring with excellent procedural success rates, low complication rates and excellent short-term clinical outcomes. We will report further results of additional included patients, mid-term clinical outcomes, and intra-coronary imaging results.

CATEGORIES CORONARY: Acute Coronary Syndromes

DILEMMAS IN CORONARY PHYSIOLOGY - III

Abstract nos: 412 - 416

TCT-412

Prognostic implications of pressure-bounded coronary flow reserve versus flow-derived coronary flow reserve.

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BACKGROUND Pressure-bounded coronary flow reserve (Pb-CFR) is a novel technique that estimates the bounds of CFR from routine pressure measurements, but has not been compared with flow-derived CFR (CFR) regarding clinical outcome. We compared the long-term prognostic value of Pb-CFR versus CFR.

METHODS We evaluated 453 intermediate coronary lesions with intracoronary pressure and flow sensors (298 lesions by Doppler flow velocity and 155 lesions by the thermodilution method). The lower and higher bound of Pb-CFR were defined as √[(1-FFR)/(1-Pd/Pa)] and (1-FFR)/(1-Pd/Pa), respectively. Long-term follow-up (median: 11.8