mini-kissing post-dilatation was performed in 18 patients (30%). The procedural success was achieved in 98.3%. At twelve months, the rate of cardiac death was 1.7% (1 patient), target vessel myocardial infarction was 1.7% and TLR was also 1.7%, giving the TLF of (3.3%). The cumulative incidence of definite/probable scaffold thrombosis was 3.4% (2 patients). Both events happened within 10 days after procedure.

CONCLUSIONS Stenting of coronary bifurcation lesions with bioresorbable everolimus-eluting scaffolds is feasible with excellent acute performance and satisfactory early and long-term clinical outcomes. The results of our study represent a major step forward towards more complete implementation of BVS to coronary interventions.

CATEGORIES CORONARY: Bioresorbable Vascular Scaffolds

KEYWORDS Bifurcation stenting, Bioabsorbable scaffolds, Clinical outcomes

TCT-543

Neointimal Coverage, Vessel Wall Healing and Major Evaginations after Everolimus-Eluting Absorb™ Bioresorbable Vascular Scaffold implantation Assessed with Serial Optical Coherence Tomography

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BACKGROUND The illumination of the spontaneous vascular healing pattern following implantation of an everolimus-eluting Absorb™ bioresorbable vascular scaffold (BVS) remains sparse. Optical coherence tomography (OCT) allows accurate and detailed in vivo assessment of the arterial healing following BVS-implantation.

METHODS Serial OCT (after Absorb™ BVS implantation, 9- and 24-month follow-up) was performed in 20 patients with stable angina pectoris post implantation, at 9-month and after 24 months were available in 18 patients. Dynamic changes in scaffold strut coverage and major coronary evaginations were evaluated. Coronary evaginations were defined when the maximal depth of outward bulges of the luminal contour between scaffold struts were >150 μm. Major evaginations were defined as presence of evaginations in ≥3 consecutive analyzed frames, with a minimal evagination depth of 10% of the nominal scaffold diameter.

RESULTS The lesion length was 14.4 ± 3.4 mm and the scaffold length was 19.7 ± 4.2 mm. The scaffold size was 3.0 ± 0.3 mm, maximum balloon size was 3.3 ± 0.3 mm and maximum balloon pressure was 14.5 ± 2.6 atm. At baseline, 3,745 struts were analyzed. The median percentage of uncovered struts was 5.1% [25th-75th percentiles: 0.5-10.0%] after 9 months and 0.0% [0.0-0.0%] after 24 months. Completely covered scaffolds were seen in 3 patients (16.7%) after 9 months and in 17 patients (94.4%) after 24 months (p=0.001). The median neointimal thickness increased from 9-month: 100 μm [70-120 μm] to 24-month: 115 μm [98-133 μm] (p=0.013). The minimum lumen area decreased significantly from 5.2 mm2 [4.8-5.7 mm2] at post-implantation to 4.4 mm2 [3.7-4.8 mm2] at 9-month (p=0.003), while no significant change was observed from 9-month to 4.5 mm2 [3.6-4.9 mm2] at 24 months, (p=ns). Major coronary evaginations were seen in 7 patients (38.9%) at 9-month follow-up and resolved in 6 out of these 7 patients (85.7%) after 24 months.

CONCLUSIONS Almost complete scaffold strut coverage was present at 24 months without causing long-term minimum lumen area reduction. Major coronary evaginations were relatively frequent morphological findings after 9 months and mainly resolved after 24 months.

CATEGORIES CORONARY: Bioresorbable Vascular Scaffolds

KEYWORDS OCT, Percutaneous coronary intervention, Vascular healing

TCT-544

Bioresorbable Coronary Devices in Clinical Practice: Immediate and 30-day Results of the Prospective REPARA Registry

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BACKGROUND Bioresorbable coronary devices are currently being used in selected lesions and patients. Routine use in daily clinical practice has not yet been established and few data exist about specific lesions and clinical scenarios.

METHODS REPARA is a multicenter, prospective registry, designed to evaluate the efficacy and safety of the bioresorbable coronary device Absorb (Abbott Vascular, Santa Clara, California) in daily clinical practice in more than 2400 patients undergoing elective coronary intervention in native coronary arteries in Spain and Portugal. The primary objective is a combined of MACE at 12 months, including cardiac death, myocardial infarction, TLR and stent thrombosis.

RESULTS Complete data will be available at the time of the meeting. By now, 1627 patients have been included (mean age 57±11 years, 81% male), 25% diabetics. Clinical indication was MI in 59% (STEMI in 32%, non-STEMI in 27%), unstable angina in 18%, stable angina or silent ischemia in 21% and others in 2%. Radial access was used in 83% of patients. A total of 2159 lesions were treated (type A 22%, B1 38%, B2 26%, C 14%), mean 1.35±0.7 for patient, 51% in LAD, 21% in Cx and 28% in RCA. Mean lesion length was 18.1±9.1 mm, 13% were bifurcations, 10% complete occlusions and 3% ostial location. Lesion predilatation was performed in 78% and 1.2±0.5 devices were implanted in each lesion. Mean device length was 23±13 mm and mean device diameter 3±0.4 mm. Overlapping rate was 14% (67% for total coverage of the lesion, 33% to treat proximal or distal dissection). Balloon postdilatation rate was 40% (mean balloon diameter 3.3±0.4 mm, mean length 12.8±4 mm, mean pressure 17.6±5 atm). Intracoronary imaging was performed in 12% of lesions (IVUS in 2.8% and OCT in 9.1%), and malapposition was detected only in 0.3%. Procedural success rate was 98.4%. In-hospital MACE were 1.6% (1.1% periprocedural MI, 0.3% acute stent thrombosis, 0.2% TLR and 0.2% cardiac deaths). At 30 days (1479 patients) total adverse events were 2.4% (1.6% MI, 0.9% stent thrombosis, 0.8% TLR and 0.3% cardiac deaths). At discharge, all patients were receiving double antiplatelet therapy (ASA 100%, clopidogrel 57%, ticagrelor 27%, prasugrel 16%). Subgroup analyses by patient and lesion complexities will be provided.

CONCLUSIONS Results from this large real-world registry with bioresorbable coronary devices show good immediate and 30-day outcomes in unselected lesions and with a high rate of ACS patients. Early stent thrombosis rates are comparable to those reported with drug-eluting stents.

CATEGORIES CORONARY: Bioresorbable Vascular Scaffolds

KEYWORDS Antiplatelet therapy, Bioresorbable scaffold, Stent thrombosis