limited. The aim of the study was to evaluate the early and long-term clinical outcomes of CTO stenting with BVS.

METHODS A prospective, nonrandomized clinical pilot registry of patients with CTO lesion located in a major coronary artery, treated with everolimus-eluting scaffolds between January 2013 and September 2016. Patients were eligible if they had symptoms and/or documented reversible myocardial ischemia, with the presence of viable myocardium in territory supplied by the occluded vessel, assessed by cardiac magnetic resonance imaging. Subjects were enrolled after successful recanalization of the target vessel, confirmed intraluminal distal wire position with no major intraprocedural complications. All patients were instructed to remain on DAPT for 12 months post procedure, and then lifelong on aspirin alone.

RESULTS 101 consecutive patients (male 78%, mean age 58.4 ± 8.6) with CTO treated with BVS were enrolled. Localization of CTO: LAD-54%; RCA-39%; LCX-7%. A total of 251 BVS were implanted with the average number of 2.5 per patient, and the scaffold length of 44,3 ± 19,4 mm. Mean J-CTO score was 1.2. Procedural success was achieved in all patients with no device-related complications. Optimal results were confirmed in baseline OCT assessment. At follow-up (median time 25,5 months), there was one cardiac death (1%), one patient experienced subacute and late scaffold thrombosis (ST)(2%). Control angiography was performed at the median time of 15,3 months in 75 patients (70%) with OCT assessment in 47 (43,9%) patients. The control exams showed: 6 cases (6%) in-scaffold restenosis (TLR); 9 (9%) cases of lesion progression distally to the distal cup of CTO requiring a new stent implantation (TVR) and 2 (2%) cases of coronary aneurysm formation.

CONCLUSION Stenting of coronary CTO lesions with bioresorbable everolimus-eluting scaffolds is feasible with excellent acute performance. Adequate stenting technique and optimal DAPT is of crucial importance for long-term clinical outcomes.

CATEGORIES CORONARY: Bioresorbable Vascular Scaffolds

TCT-170

Bioresorbable scaffolds implantation for chronic total occlusion with bifurcation lesion

Magdalena Lanocha,[1] Maciej Lesiak,[2] Aleksander Araszkiewicz,[2] Andrzej Siniawski,[3] Przemyslaw Mitkowski,[4] Wlodzimierz Skorupski,[5] Marek Grygier,[6] Malgorzata Pyda,[7] Marta Kaluzna-Oleksy,[8] Stanislaw Jankiewicz,[2] Michal Lesiak,[6] Sylwia Iwanczyk,[6] Magdalena Dudek,[2] Stefan Grajek[9]
[1]Poznań University of Medical Sciences, Poznan, Poland; [2]Department of Cardiology, Poznan University of Medical Sciences, Poznan, Poland; [3]Ist Cardiology Clinic in Poznan, Poland, Poznan, Poland; [4]University Hospital of Lord's Transfiguration, Poznań, Poland; [5]University of Medical Sciences Poznan Poland, Poznan, Poland; [6]Poznan University of Medical Sciences, Poznan, Poland; [7]Poznan University of Medical Sciences, Poznan, Poland; [8]1st Department of Cardiology Poznan University, Poznan, Poland; [9]Medical University, Poznan, Poland

BACKGROUND Preserving patency of side branches(SB) involved into chronic total occlusion(CTO) lesions is still a technical challenge for interventional cardiologist during CTO procedures. The aim of the study was to evaluate the early and long-term clinical outcomes of CTO-bifurcation lesion stenting with everolimus-eluting scaffolds (BVS).

METHODS The subanalysis of a prospective, nonrandomized clinical registry of patients with CTO lesion treated with BVS. Consecutive patients with indication for CTO revascularization with involved bifurcation lesion into CTO were enrolled between 2012-2015. Bifurcation lesion was defined and classified according to European Bifurcation Club definition and Medina classification. The main clinical study end point was a device-oriented target lesion failure (TLF).

RESULTS 65 consecutive patients with CTO lesion coexisting with bifurcation lesion (male 77%, mean age 60,2 ±8,6 years) were included. True bifurcation lesion was found in 7 patients (11%). Mean J-CTO score was 1.6 and in 25 (38%) cases were OCT-guided procedure. Based on QCA assessment (Medis Suite XA) the mean side branch (SB) reference diameter was 2.24 ± 0.41 mm, SB diameter stenosis 41.8± 22,3%. A total of 102 BVS were implanted with the average number of 1.6 per patient, and the scaffold length of 43,0 ± 18,9 mm. Provisional T stenting was performed in 63 patients (97%), distal main vessel stenting in 1 (1,5%) and SB ostial stenting was in 1 patient (1,5%). The final kissing was performed in 15 cases (23%) and TIMI III flow was in all the SBs. The procedural success was achieved in 100%. Control angiography and OCT were performed in 46 (71%) patients at a median time 15±9months with following results: 2 cases in-scaffold restenosis (TLR-3%); 6 cases of lesion progression distally to the distal cup of CTO requiring a new stent implantation (TVR-9%) and 2 (3%) cases of coronary aneurysm formation. All side branches involved into previous treated CTO lesion remained open with TIMI III flow during follow up.

CONCLUSION Stenting of CTO-bifurcation lesions with bioresorbable everolimus-eluting scaffolds is an interesting and tempting treatment option with excellent early and long-term clinical outcomes.

CATEGORIES CORONARY: Stents: Bioresorbable Vascular Scaffolds

TCT-171

Optical Coherence Tomography evaluation of the Absorb bioresorbable scaffold performance for overlap versus non-overlap segments in patients with coronary chronic total occlusion: insights from the GHOST-CTO registry

Gabriel Tensol Rodrigues Pereira,[1] Alessio La Manna,[2] Eligio Miccichè,[3] Guido D'Agosta,[3] Armando Vergara-Martel,[4] Giacomo Gravina,[5] Bruno Ramos Nascimento,[6] Guilherme F. Attizzani,[7] Davide Capodanno,[5] Corrado Tamburino[8]
[1]University Hospitals - Harrington Heart & Vascular Institute, Cleveland, Ohio, United States; [2]University of Catania, Catania, Catania, Italy; [3]Ferrarotto Hospital, Catania, Catania, Italy; [4]University Hospitals Cleveland Medical Center, Cleveland Heights, Ohio, United States; [5]Ferrarotto Hospital, Cardiology Division, University of Catania, Catania, Catania, Italy; [6]Hospital das Clinicas da Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; [7]University Hospital Harrington Heart & Vascular Institute, Cleveland, Ohio, United States; [8]Ferrarotto Hospital, Cardiology Division, University of Catania, Catania, Italy

BACKGROUND The Absorb®(Abbott Vascular, Santa Clara, CA) Bioresorbable Vascular Scaffold (BVS) has advantages over its predecessors, but has a drawback due to its large thickness, especially in regions of overlap. In this study we compared healing and performance between overlap (OL) and non-overlap regions (NOL) in coronary Chronic Total Occlusion (CTO) lesions treated with BVS, using intravascular imaging.

METHODS The present study is an 18-patient subset of the GHOST-CTO registry (single-center, prospective observational study, Ferrarotto Hospital, Catania, Italy) with 12 month follow-up by Optical Coherence Tomography (OCT), that had overlapping BVS implanted from May 2013 to May 2014, resulting in 33 OL and 18 NOL. Images were analyzed by an independent CoreLab at every 0.6mm using validated methods. Difference scores between OL and NOL regions were calculated for all variables. All tests were performed using SAS 9.4 using the Wilcoxon Signed Rank test.

RESULTS The mean age was 63±7 years, 16 (89%) were males, 15 (83%) had hypertension, 6 (33%) had diabetes and 6 (33%) were smokers. Sixteen patients underwent PCI for stable coronary artery disease, and the SYNTAX-1 score was below 22 in all but one case. In the 12-month follow-up, mean stent area was similar between OL and NOL regions (10.6±2.7 vs. 10.3±2.2 mm2, p=0.25), whereas lumen area was smaller in the OL (6.9±2.2 vs. 7.8±1.9 mm2, p=0.003). There was a trend towards lower malapposition area (0.04±0.09 vs. 0.12±0.18 mm2, p=0.08), and lower % incomplete scaffold apposition (0.14±0.43 vs. 0.56±0.96 %, p=0.08) in OL region. The percent of uncovered struts was significantly lower in OL (1.27±2.96 vs. 4.77±5.88 %, p<0.001), as was the mean maximum malapposition distance (0.09±0.27 vs. 0.55±0.69 mm, p=0.004). However, neointima hyperplasia (NIH) was more pronounced in the OL (0.24±0.10 vs. 0.14±0.04 mm2, p<0.001).

CONCLUSION The OL BVS segments showed favorable performance compared with to NOL. Despite NIH being more prominent in OL, both regions showed good healing pattern. The impact of these findings on clinical outcomes of patients undergoing BVS implantation needs further study.

CATEGORIES CORONARY: Bioresorbable Vascular Scaffolds