at 8 months, defined as a composite of death, myocardial infarction and target vessel revascularization (10% vs 9%, p = 0.91).

Conclusions: Although PCI for CTO with CART or reverse CART technique may be associated with increased minor complications, it may lead to comparable clinical and angiographic results at 8 months as compared with conventional treatment.

TCT-206

Incidence and clinical impact of Side Branch Occlusion After Biodegradable Vascular Scaffold Implantation for Chronic Total Occlusions: Insight from the CTO-ABSORB pilot study

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Background: The thicker strut of metallic stents potentially contributes to a higher incidence of side branch occlusion (SBO). This study sought to assess the incidence and clinical impact of SBO after biodegradable vascular scaffold (BVS) implantation in percutaneous CTO revascularization.

Methods: 3 consecutive CTO lesions (Euro-CTO club definition) treated with BVS were included in this prospective study. Target lesions were scaffold after mandatory pre-dilatation and IVUS analysis. Side branch occlusion (SBO) was defined as a reduction in TIMI flow to grade 0 or 1. Accordingly, side branches (SB) with pre-BVS implantation TIMI flow grade 0 or 1 were excluded. Visible SB were classified in two groups: really small (< 0.5 mm) or not (≥ 0.5 mm).

Results: The most frequent lesions treated were the RCA (46%) and LAD (40%). According to the Japanese-CTO-score of complexity most of lesions were classified as intermediate (49%), less complex (26%), and complex (25%). CTO-ABSORB was described in (7/109) 6.4%. Really small SB (SB< 0.5 mm), were slightly more frequently occluded (4) 3.7% compared to SB ≥0.5 mm (3.2%). In 4 out of 7 cases of SBO, a significant dissection after balloon dilatation and before BVS implantation was observed. However, dissection was reported in 1/4 (25%) of really small SB and in 3/3 (100%) of bigger SB. Post-procedural SBO was not related with an increased incidence of in-hospital myocardial infarction. At a median of 10.2 (6.2-11.9) months, no MACE was reported and all the devices were patent by MSCT.

Conclusions: In our study with long complex lesions covered by BVS we report a relatively slow rate of SBO after BVS implantation, including all visible SB. Moreover it seemed that SBO had not a significant impact in in-hospital or midterm adverse events. Further investigation is required in a pivotal randomized trial.

TCT-207

Dissection and re-entry techniques and longer-term outcomes following successful percutaneous coronary intervention of chronic total occlusion

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Background: New techniques involving dissection of the sub-intimal space and re-entry into the true lumen increase success rates. However, their long-term safety and efficacy is unknown.

Methods: We assessed the impact of dissection-re-entry techniques and sub-intimal drug-eluting stent (DES) implantation on longer-term outcomes following successful chronic total occlusion (CTO) percutaneous coronary intervention (PCI). This study included a series of consecutive patients who underwent CTO PCI between 01/2010 and 01/2013. Events were collected if patients were re-admitted. If not, they were contacted 12-18 months after their PCI. The combined incidence of cardiac death, myocardial infarction, ischemia-driven target vessel revascualrisation (TVR) or re-occlusion was evaluated as our primary outcome.

Results: Of 212 CTOs treated, 192 (91%) were successfully opened (in 179 procedures). Follow-up data was available for 187 CTOs (97.4%), with 82 (44%) that were opened with dissection-re-entry, and 105 (56%) with wire escalation techniques. No patient died from cardiac causes. At a median follow-up of 398 days, the primary outcome occurred in 18/179 CTOs treated (10.7%), driven by TVR. Eleven CTOs (15.2 %) treated with dissection-re-entry vs. 7 CTOs (7.3%) treated with wire escalation presented with the primary outcome (p=0.17). With multivariate adjustment, dissection-re-entry techniques had no significant impact on outcomes. However, treatment of an in-stent occlusion was independently associated with the primary outcome (HR>=6.0; p<0.001).

Conclusions: Dissection-re-entry techniques have minimal impact on longer-term outcomes following CTO PCI, which are favorable in the majority of patients. However, treatment of an in-stent occlusion was a predictor of subsequent adverse outcomes.

TCT-208

Incidence, Treatment And In-Hospital Clinical Outcome Of Bifurcation Lesions In Patients Undergoing Percutaneous Chronic Total Occlusion Coronary Interventions

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Background: Bifurcations lesions (BFLs) represent a distinct lesion subset associated with an increased risk of procedure related complications. Data about incidence, treatment and clinical outcome of BFLs associated with chronic total occlusions (CTO) are limited.

Methods: This study is a retrospective analysis of CTO PCI cases performed by a single CTO experienced operator. Patients with a BFL within CTO vessel and a side branch with a reference diameter greater ≥ 2 mm were enrolled.

Results: A total of 905 patients (mean age 61.1 ± 9.5 years, males 89.4%) were treated for 922 CTOs. Among them, 244 BFLs within the CTO vessels were observed (26.5%). Patients with and without BFLs had similar baseline clinical characteristics except for gender. Furthermore, BFLs were more often observed in left anterior descending CTO (48.4%) while right coronary artery was the most commonly involved vessel in non BFLs group (56.6%) (p < 0.001). An angiographic success was achieved in 91.1% of cases with higher rate in non BFLs (92.5% vs. 87.3%; p=0.04). Procedural time was significantly longer in BFLs than in non BFLs (139 ± 67 min vs 124 ± 65 min, respectively; p=0.003) with a greater use of contrast load (470 ± 198 ml vs.436 ± 227 ml, respectively, p=0.04) and higher number of stents (3.1 ± 1.5 vs. 2.9 ± 1.4, respectively; p=0.035). Coronary perforation were more often observed in BFLs (4.9% vs. 1.7%; p<0.001) resulting in more taptonades (2.4% vs. 0.2%; p<0.001). True BFLs were encountered in the majority of cases (86.8%) and required more 2-stent technique than false BFLs (50% vs. 18.8%; p=0.001).

Conclusions: The incidence of BFLs in CTO lesions is higher than generally reported in continuous coronary artery disease patients. The presence of BFLs in a CTO vessel remains a challenging situation for interventional cardiologists that increases the complexity of CTO procedure and may lead to less angiographic success and more peri-procedural complications.

TCT-209

Subintimal laser atherectomy for chronic total occlusion revascularization

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Background: Laser atherectomy is useful for debulking coronary lesions, but can cause perforations. While lasers have been used to break down the proximal cap of chronic total occlusions (CTO) and help create microchannels through non-crossable lesions, using laser in the extraluminal space has been previously prohibited.

Methods: A retrospective case series was performed of patients who underwent CTO revascularization using subintimal laser atherectomy with a 0.9 mm laser catheter. Patients with antegrade subintimal dissection reentry and reverse controlled antegrade-retrograde dissection (reverse CART) were included. In all cases the laser was advanced antegrade in the target vessel. Clinical and procedural characteristics, and outcomes at hospital discharge were collected.

Results: Eleven patients underwent revascularization using laser atherectomy in the subintimal space. The average J-CTO score was 3±0.2 and lesion length 69.5±11.0 cm.

Table. Univariate and multivariate predictors of the primary outcome

<table>
<thead>
<tr>
<th>Predictor</th>
<th>HR</th>
<th>95% CI</th>
<th>p-value</th>
<th>HR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissection and re-entry (anterograde or retrograde)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male sex</td>
<td>4.3</td>
<td>0.6-33</td>
<td>0.15</td>
<td>3.3</td>
<td>0.4-25</td>
<td>0.26</td>
</tr>
<tr>
<td>Previous CABG</td>
<td>3.8</td>
<td>1.5-9.4</td>
<td>0.004</td>
<td>2.2</td>
<td>0.8-6.0</td>
<td>0.14</td>
</tr>
<tr>
<td>Mean J-CTO score (per 1 point increment)</td>
<td>1.3</td>
<td>0.9-1.8</td>
<td>0.23</td>
<td>1.1</td>
<td>0.7-1.6</td>
<td>0.80</td>
</tr>
<tr>
<td>In-stent occlusion</td>
<td>6.1</td>
<td>2.4-15</td>
<td>0.0001</td>
<td>6.6</td>
<td>2.2-20</td>
<td>0.0008</td>
</tr>
<tr>
<td>DES length in CTO artery (per additional mm)</td>
<td>1.01</td>
<td>1.00-1.02</td>
<td>0.02</td>
<td>0.99</td>
<td>0.99-1.01</td>
<td>0.80</td>
</tr>
<tr>
<td>LM or LAD CTO</td>
<td>0.24</td>
<td>0.03-1.8</td>
<td>0.16</td>
<td>0.4</td>
<td>0.05-3.3</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Conclusions: Dissection-re-entry techniques have minimal impact on longer-term outcomes following CTO PCI, which are favorable in the majority of patients. However, treatment of an in-stent occlusion was a predictor of subsequent adverse outcomes.