

RESULTS Forty consecutive patients (male 78%, mean age 59.9 ± 8.3 , diabetics 30%) with CTO treated with BVS were enrolled. A total of 63 BVS were implanted with the average number of 1.6 per patient, and the scaffold length of 42.4 ± 21.5 mm. Mean J-CTO score was 1.6. Antegrade approach was used in 38 patients (95%), and retrograde, after failed antegrade, in the remaining two (5%). High pressure post-dilatation was performed in 38 patients. Procedural success was achieved in all patients with no device-related complications. IVUS was used in two, whereas OCT in ten patients. On QCA the mean in-scaffold final MLD was 2.13 ± 0.31 mm and residual stenosis $13.90 \pm 7.59\%$. In OCT analysis, performed in 10 patients, the minimal in-scaffold luminal diameter was 2.65 ± 0.45 mm, minimal luminal area 6.15 ± 0.20 mm², and lumen area stenosis $17.7 \pm 11.1\%$. At follow-up (median time 434 days), there were no deaths, one patient experienced subacute and late scaffold thrombosis (ST), another one developed symptomatic in-scaffold focal restenosis treated with repeat PCI. At control angiography, performed at the median time of 264 days in 23 patients (58%), the mean in-scaffold diameter stenosis was 22.42 ± 12.74 , and the mean late lumen loss was 0.24 ± 0.55 mm. No more restenosis or vessel reocclusion was found.

CONCLUSIONS Stenting of coronary CTO lesions with bioresorbable everolimus-eluting scaffolds is feasible with excellent acute performance and good early and long-term clinical outcomes. Adequate stenting technique and optimal DAPT is of crucial importance. 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 Bioabsorbable scaffolds, Chronic total occlusion

TCT-524

Should Bioresorbable Scaffold Stents be Considered non-inferior to Drug Eluting Stents for Treatment of Ischemic Coronary Artery Disease? : A Meta-Analysis of RCTs

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BACKGROUND The bioresorbable vascular scaffold (BVS) is a new therapy that provides transient vessel support with drug delivery capability, potentially without the limitations of permanent metallic implants. It can be an alternative option to currently used drug eluting stents (DES) for percutaneous coronary intervention (PCI) of ischemic coronary artery disease (CAD). We aimed to compare the non-inferiority of BVS use to DES.

METHODS We searched Pub Med and Cochrane through June 2015 for all randomized clinical trials (RCTs) that directly compared BVS and DES for ischemic CAD. Primary outcome was target vessel revascularization (TVR). Secondary outcomes included cardiac death, acute myocardial infarction, and definite or probable stent thrombosis (ST). We used Fixed or Random Effect analysis using the Cochrane Handbook of Systematic Reviews and RevMan 5.2 for statistical analysis.

RESULTS Out of 257 articles, four randomized trial studies were included. The pooled data provided 3873 patients; 2024 treated with BVS and 1849 with Everolimus drug-eluting stent. Mean follow up was 12 months. There was a trend towards lower TVR in BVS group compared to Everolimus group (2.7% vs. 4.5%, $p=0.1$) (Figure 1). There was no difference in cardiac death (0.7 % vs. 0.7%, $p=0.8$), AMI (3.4% vs. 3.4%, $p=0.9$) and ST (0.6% vs. 0.7%, $p=0.9$) between the two groups (Figure 2).

Figure 1. TVR

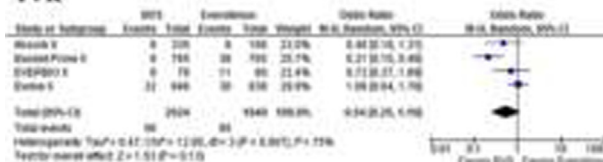


Figure 2. Cardiac Death



Myocardial Infarction



Probable/Definite Stent Thrombosis



CONCLUSIONS Our analysis showed similar outcomes between two treatment modalities. This suggests that BVS might not be inferior to DES for PCI of ischemic CAD. Further randomized trials should be pursued to confirm those findings.

CATEGORIES CORONARY: Bioresorbable Vascular Scaffolds

KEYWORDS Bioabsorbable scaffolds, Drug-eluting stent, everolimus

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Clinical outcomes following percutaneous coronary intervention using small bioresorbable scaffolds

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BACKGROUND Bioresorbable scaffolds (BRS) are an attractive option for the percutaneous treatment of coronary artery disease due to the potential advantages associated with its complete absorption within 3-4 years of implantation. However, due the current design of BRS with thicker struts compared to contemporary metallic stents, some concern remains that this property may be associated with adverse events including thrombosis and restenosis when using small BRS.

METHODS Among 350 consecutive lesions treated with Absorb BRS during May 2012 - Apr 2015 at 2 high volume centers in Milan, 116 lesions were treated using 2.5 mm BRS (small BRS group) and 234 lesions were treated with BRS >2.5 mm BRS (large BRS group). Outcomes including target lesion revascularization (TLR) per lesion and definite stent thrombosis were investigated.

RESULTS The number of BRS was higher and the total BRS length was longer in the small BRS group when compared to the large BRS group (1.7 ± 0.8 vs 1.4 ± 0.6 ; $p<0.001$, and 42.3 ± 22.6 mm vs 30.7 ± 15.0 mm; $p<0.001$, respectively). As expected, the post procedural minimum lumen diameter was significantly smaller in the small BRS group (2.36 ± 0.43 mm vs 2.82 ± 0.44 mm; $p<0.001$). TLR-free rate (median