

p=0.98), cardiac death (96.8% vs 97.1%, p=0.84), MI (91.9% vs 89.4%, p=0.40), Q-wave MI (100.0% vs 98.6%, p=1.0), non-Q-wave MI (91.9% vs 90.8%, p=0.70), and TVR (94.1% vs 94.2%, p=0.98).

CONCLUSION Using the OAS as a lesion preparation tool prior to stent deployment in both diabetics and non-diabetics may offer patients with severely calcified coronary lesions a new treatment option, with low rates of MACE at one-year post-procedure.

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Orbital Atherectomy Treatment of Severely Calcified Coronary Lesions in Patients with History of Coronary Artery Bypass Grafting: One Year Safety Outcomes from the ORBIT II Trial

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BACKGROUND History of prior coronary artery bypass grafting (CABG) may be associated with increased incidence of major adverse cardiac events (MACE) in patients undergoing repeat CABG, percutaneous coronary intervention, or medical treatment. In this analysis, one year safety outcomes were evaluated in patients with and without history of CABG treated with orbital atherectomy for *de novo*, severely calcified coronary lesions.

METHODS ORBIT II, a prospective, multicenter, non-blinded trial, enrolled 443 patients with severely calcified coronary lesions. Orbital atherectomy was used to modify lesions for stent placement. One year safety outcomes were compared in patients with and without history of CABG (N=65 and N=378).

RESULTS ORBIT II patients with history of CABG were more likely to be male and have a higher prevalence of diabetes, history of dyslipidemia, hypertension, and myocardial infarction (MI). One year safety outcomes are presented in Table I. The higher rate of in-hospital MACE (16.9% vs. 8.5%, p=0.04) in the prior CABG group was likely driven by the higher rate of non-Q-wave MI (15.4% vs. 7.5%, p=0.05). At one year, however, using multivariate analysis prior CABG was not associated with increased MACE (HR 0.57, p=0.08) after adjusting for baseline and pre-procedural factors.

CONCLUSION Preparation of severely calcified coronary lesions with orbital atherectomy facilitated stent delivery in patients with a history of CABG, resulting in low rates of 1-year MACE, MI, cardiac death, and target vessel revascularization.

Table I. ORBIT II Safety Outcomes Through 1-Year Follow-up

	Prior CABG	No Prior CABG	p-value
1-year			
MACE (%)	26.3	14.7	0.02
Cardiac death (%)	4.7	2.7	0.41
Q-wave MI (%)	1.5	0.8	0.57
Non-Q-wave MI (CK-MB>3XULN) (%)	15.4	7.7	0.05
TVR (%)	8.0	5.5	0.45

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First- Versus Second-generation Drug-eluting Stents Following Rotational Atherectomy in Patients With Heavily Calcified Coronary Lesions

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BACKGROUND Little information is available regarding the comparison between the first- and second-generation drug-eluting stents (DES) following rotational atherectomy (ROTA) for patients with heavily calcified coronary lesions (HCCL).

METHODS Ninety-nine patients with HCCL who underwent RA prior to first-generation DES (n=40, 53 lesions) or second-generation DES (n=59, 63 lesions) implantation were retrospectively analyzed. The primary endpoint was the rate of major adverse cardiac events (MACE).

RESULTS Baseline clinical and procedural characteristics were similar between the two groups, except for more complex type C lesions (81.0% vs. 58.8%, p=0.01) and more proportion of post dilation (52.4% vs. 23.1%, p=0.001) in the second-generation DES group. The procedure success rate was similar in the two groups (95% vs. 100%, p=0.161). Compared with first-generation DES group, there were no differences regarding the occurrence of MACE (11.9% vs. 12.8%, p=1.000), TLR (3.6% vs. 2.7%, p=1.000) and all-cause death (8.5% vs. 10.3%, p=1.000) in the second-generation DES group at 1-year follow-up. No stent thrombosis was found in all patients.

CONCLUSIONS The first- and second-generation DES following ROTA resulted in comparable outcomes in patients with HCCL at 1 year follow-up.

Table I. In-hospital, 6-month and 1-year clinical outcomes

Variable	1-st generation DES (n=40, 53 lesions)	2-nd generation DES (n=59, 63 lesions)	p-value
In-hospital MACE (%)	5.0	0	0.161
6 month follow-up (%)			
MACE	7.5	6.8	1.000
All cause death	5.0	5.1	1.000
Cardiac death	0	5.1	0.274
Q-wave MI	0	0	-
TLR	2.5	1.7	1.000
Stent thrombosis	0	0	-
1 year follow-up (%)			
MACE	12.8	11.9	1.000
All cause death	10.3	8.5	1.000
Cardiac death	0	8.5	0.153
Q-wave MI	0	0	-
TLR	2.7	3.6	1.000
Stent thrombosis	0	0	-

MACE: Major adverse cardiac events; MI: Myocardial infarction; TLR: Target lesion revascularization

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Clinical Outcomes Comparison Among Different Strategies Of Lesion Preparation For Heavily Calcified Coronary Lesions With Drug-eluting Stents Implantation: Plain Balloon, Cutting Balloon And Rotational Atherectomy

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BACKGROUND This study aimed to compare the outcome following plain old balloon angioplasty (POBA), cutting balloon angioplasty (CBA) and rotational atherectomy (ROTA) in patients with heavily calcified coronary lesions (HCCL).

METHODS Clinical data of the patients with HCCL who underwent POBA (n=220), CBA (n=253), or ROTA (n=264) prior to DES implantation from 2003-2013 were retrospectively analyzed. The occurrence of major adverse cardiac events (MACE), defined as all-cause death, myocardial infarction (MI) or target lesion revascularization (TLR) were compared at one year follow-up.

RESULTS Baseline clinical characteristics were similar among the three groups, except for older patients age, and type C lesions in the ROTA versus the CBA and POBA (71.9±10.4 vs. 68.0±10.8, 68.7±11.8 years, p<0.001), and (61.7% vs. 35.8%, 45.0%, p<0.001) respectively. Angiographic success was achieved in all patients. At one year follow-up, the MACE rate was similar (14.6% in the ROTA group, 12.3% in the POBA group and 8.3% in the CBA group, p=0.204). The occurrence of stent thrombosis was 0.6% in the CBA and 0% in the ROTA and POBA group.

CONCLUSIONS In patients with HCCL, ROTA was frequently used for the treatment of more complex lesions compared with CBA and POBA. The different strategies with ROTA, CBA and POBA prior to DES implantation resulted in the similar long-term outcomes after optimal lesion preparation for patients with HCCL.

Table I. 6-month and 1-year clinical outcomes

Variable	POBA (n=220)	CBA (n=253)	ROTA (n=264)	p value
6 month follow-up (%)				
MACE	9.2	3.9	8.6	0.118
All cause death	6.2	2.2	6.3	0.135
Cardiac death	1.6	1.1	1.8	0.897
Q-wave MI	0	0	0	-
TLR	2.4	2.3	2.4	1.00
Stent thrombosis	0	0.5	0	1.00
1 year follow-up (%)				
MACE	12.3	8.3	14.6	0.204
All cause death	8.2	4.5	9.8	0.178
Cardiac death	2.5	1.3	3.1	0.611
Q-wave MI	0	0.7	0	1.00
TLR	3.5	3.9	5.2	0.765
Stent thrombosis	0	0.6	0	0.629

MACE: Major adverse cardiac events; MI: Myocardial infarction; TLR: Target lesion revascularization