

CRT-200.19**Prevalence and Characteristics of Percutaneous Coronary Intervention in Fractional Flow Reserve-Determined Functionally Non-significant Coronary Lesions**Naoki Misumida, Akihiro Kobayashi, Yumiko Kanei
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BACKGROUND Although fractional flow reserve (FFR) value >0.8 can reliably identify lesions that are at a low risk of future coronary events, discrepancies between FFR values and results of other stress testing or severity of patients' symptoms are occasionally encountered in daily practice. Percutaneous coronary interventions (PCI) can be performed in these FFR-determined functionally non-significant coronary lesions because of various clinical reasons. We aimed to clarify the prevalence and characteristics of PCI in FFR-determined functionally non-significant coronary lesions.

METHODS We retrospectively reviewed all patients who underwent coronary angiography and FFR measurement from January 2013 to September 2014. FFR value was obtained after intravenous adenosine infusion in all patients. A planned PCI was defined as PCI non-emergently performed within four weeks after the index coronary angiography. PCI in patients who failed initial medical management was not included as a planned PCI. The decision regarding revascularization was made at the discretion of the treating interventional cardiologist. Functionally non-significant lesion was defined as a lesion with FFR value >0.8 . The reasons for interventions were carefully investigated by chart review including stress test results in the patients who underwent PCI in FFR-determined functionally non-significant coronary lesions.

RESULTS Five hundred patients and 639 lesions were included in the analysis. Among 639 lesions, 129 lesions had FFR ≤ 0.8 and 510 lesions had FFR value >0.8 . Of the 510 lesions with FFR >0.8 , 32 lesions in 32 patients (6% of the lesions with FFR >0.8) were treated with either ad-hoc PCI (21 lesions) or planned PCI (11 lesions). Among the 32 lesions, 23 lesions were left anterior descending, 6 were circumflex and 3 were right coronary artery. FFR values were 0.81 in 8 lesions, 0.82 in 12 lesions, 0.83 in 5 lesions and 0.84 in 3 lesions. The reasons for revascularization in FFR-determined functionally non-significant lesions included CCS class 3-4 angina (n=15), abnormal stress testing (n=8), ulcerated plaque (n=2), wall motion abnormality (n=2), troponin elevation (n=1) and unknown (n=4).

CONCLUSION Either ad-hoc or planned PCI was performed in 6% of the lesions with FFR value >0.8 . Most common reasons for revascularization in FFR-determined functionally non-significant coronary lesions were severe angina and abnormal stress testing.

CRT-200.20**Abstract Withdrawn****CRT-200.21****Transvenous Pacemaker Placement Incidence With Coronary Orbital Atherectomy Compared to Rotational Atherectomy**Evan Shlofmitz,¹ Jeffrey Chambers,² Michael Lee,³ Jeffrey Moses,⁴ Brad Martinsen,⁵ Perwaiz Meraj,¹ Rajiv Jauhar,¹ Richard Shlofmitz⁴
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BACKGROUND Transvenous temporary pacing (TVP) is often used during percutaneous coronary intervention (PCI) in patients undergoing rotational atherectomy (RA) and is recommended for prophylactic use in all cases involving the RCA. The placement of transvenous pacing has cost implications, but more importantly is associated with increased procedural risk. Diamondback 360® Coronary Orbital Atherectomy System (OAS) is a device which can treat calcific coronary artery disease (CAD) as an alternative to RA. Due to the difference in the mechanism of atherectomy, OAS may not require TVP as compared to RA. The objective of this study is to identify if there is a difference in utilization of temporary transvenous pacemaker's during PCI with OAS compared with RA in a multi-center real world setting.

METHODS A multi-center retrospective analysis was completed on all PCI cases that took place at five institutions between January

2012 and June 2015, using either OAS or RA (n=823). We assessed the number of cases in which TVP were placed, and subsequently activated. Statistical analysis was performed using the Chi-square test.

RESULTS There were 439 cases utilizing OAS, of which 17 cases had TVP placed (3.87%), with 4 pacemakers activated. During orbital atherectomy, 12 of the TVP's were for RCA cases, 2 for LCx and 3 for LAD. There were 384 rotational atherectomy cases, with 44 TVP's placed (11.5%), with 17 activated. 37 of the TVP's placed with RA were for RCA cases, 4 for LCx, 2 for LAD and 2 for LM. TVP's were placed significantly less often in OAS cases as compared with RA cases (p-value = 0.00003). Pacemaker activation occurred significantly less in the OAS cohort (p-value = 0.001).

CONCLUSION Guidelines have suggested that TVP's may be necessary when treating lesions in the right coronary (RCA) and dominant circumflex (LCx) arteries with OAS. This however is based on data involving RA. In a real world setting, temporary pacemakers were placed significantly less for OAS cases as compared to RA cases. OAS has a different mechanism of action which likely accounts for lower rates of arrhythmia, particulate embolization, no reflow phenomenon and hemodynamic changes compared with RA. These factors may lead to decreased need for TVP during OAS cases, as it appears to less frequently cause the Bezold-Jarisch reflex associated with dominant RCA or LCx atherectomy. Further studies are needed to determine whether TVP's are routinely needed for OAS cases.

CRT-200.22**Percutaneous Coronary Intervention in Severely Calcified Unprotected Left Main Coronary Artery Disease: Initial Experience With Orbital Atherectomy**Michael Lee,¹ Evan Shlofmitz,² Barry Kaplan,² Richard Shlofmitz³
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BACKGROUND We report the clinical outcomes of patients who underwent percutaneous coronary intervention (PCI) with orbital atherectomy for severely calcified unprotected left main coronary artery (ULMCA) disease. Although coronary artery bypass grafting is the gold standard for patients with ULMCA disease not all patients are candidates for this. PCI is increasingly used to treat complex coronary artery disease, including ULMCA disease. The presence of severely calcified lesions increases the complexity of PCI. Orbital atherectomy can be used to facilitate stent delivery and expansion in severely calcified lesions. The clinical outcomes of patients treated with orbital atherectomy for severely calcified ULMCA disease have not been reported.

METHODS From May 2014 to July 2015, 13 patients who underwent PCI with orbital atherectomy for ULMCA disease were retrospectively evaluated. The primary end point was major cardiac and cerebrovascular events (cardiac death, myocardial infarction, stroke, and target lesion revascularization) at 30 days.

RESULTS The mean age was 78.2 ± 5.8 years. Left ventricular dysfunction was present in 46.2%. Cardiac surgery declined surgical revascularization in 61.5%. Distal bifurcation disease was present in 69.2%. Procedural success was achieved in 100% of patients. The 30-day major adverse cardiac and cerebrovascular event rate was 0%. One patient had coronary dissection which was successfully treated with stenting. One patient died from non-cardiac cause (7.7%). No patient had perforation, slow flow, or thrombosis.

CONCLUSION Orbital atherectomy is a safe and effective treatment strategy for patients with severely calcified ULMCA disease, even in high-risk patients who were considered poor surgical candidates.

CRT-200.23**Effect of Low Frame Rate Fluoroscopy on Radiation Dose and Angiographic Image Quality during Cardiac Catheterization**Divyesh Sharma, Ashish H. Shah, Christopher Overgaard, Vladimir Dzavik
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BACKGROUND Minimizing radiation exposures is one of the primary safety concerns in the catheterization laboratory. Use of lower frame rate during fluoroscopy is known to reduce radiation dose. However, there is little data on the impact of using lower frame rate on the