

Table 1. Procedural Characteristics and In-hospital Outcomes in Patients on Dialysis - Stratified by Use of Orbital and Rotational Atherectomy

Variable Name	OA (N=31)	RA (N=31)	P value
Procedural Outcomes:			
Fluoroscopy Time (min)	21.1±9.3	23.6±10.8	0.35
Contrast Volume (ml)	163.3±71.6	147.0±61.1	0.34
Safety Outcomes:			
Significant Dissection	0 (0%)	1 (3.2%)	0.31
Perforation	0 (0%)	0 (0%)	N/A
Cardiac Tamponade	0 (0%)	0 (0%)	N/A
Vascular Complications	1 (3.2%)	0 (0%)	0.31
Primary Outcome:			
In-Hospital Mortality	0 (0%)	1 (3.2%)	0.31
Secondary Outcomes:			
Myocardial Infarction	3 (9.7%)	6 (19.3%)	0.28
Cardiogenic Shock	1 (3.2%)	2 (6.4%)	0.55
Congestive Heart Failure	0 (0%)	1 (3.2%)	0.31
Composite of Stroke	0 (0%)	0 (0%)	N/A
Blood Transfusion	4 (12.9%)	5 (16.1%)	0.72
Bleeding Within 72 Hours	1 (3.2%)	1 (3.2%)	1.00
Conversion to CABG	0 (0%)	0 (0%)	N/A
Length of Stay (Days)	4.4±7.0	5.5±9.4	0.58

CRT-100.30

Clinical Outcomes of Atherectomy Prior to Percutaneous Coronary Intervention in Patients with Acute Coronary Syndrome (COAP-ACS Study)



Evan Shlofmitz,¹ Rajkumar Doshi,² Amitkumar Patel,² Perwaiz Meraj²
¹Cardiovascular Research Foundation, New York, NY; ²Northwell Health, Manhasset, NY

BACKGROUND Patients with coronary artery calcification (CAC) undergoing percutaneous coronary intervention (PCI) can often benefit from treatment with atherectomy for lesion preparation. Calcified coronary lesions in patients presenting with acute coronary syndrome (ACS) increase the risk and complexity of successful PCI. We sought to examine the safety and efficacy of atherectomy modalities in patients with CAC presenting with ACS.

METHODS This prospective, observational, multicenter study assessed OA vs. RA in patients with CAC presenting with STEMI and NSTEMI. Thirty-five thousand five hundred ninety patients from 5 tertiary-care hospitals who had PCI between January 2011 and April 2016 were identified. Patients with ACS who had OA or RA prior to PCI were included in our analysis (n=149; 140 matched), and in-hospital outcomes were assessed.

RESULTS There was no significant difference in the primary endpoint, death on discharge (0% vs. 2.9%, p=0.15). Multivariate adjusted analysis demonstrated statistically significant decreased incidence of heart failure (1.4% vs. 11.4%, p=0.01), fluoroscopy time (20.7±8.2 vs. 25.0±13.5 min., p=0.02) and length of stay (2.5±4.5 vs. 5.7±6.5 days, p<0.001) with OA.

CONCLUSION In this first head-to-head analysis of ACS patients with CAC undergoing atherectomy prior to PCI, there were no significant differences in major adverse cardiac events or procedural complications. OA was associated with significantly shorter length of stay with decreased procedural fluoroscopy time compared with RA. Multi-center randomized studies are needed to confirm the optimal atherectomy strategy in ACS patients.

Table 1. Procedural Characteristics and In-hospital Outcomes in Patients with NSTEMI - Stratified by Use of Orbital and Rotational Atherectomy

Variable Name	OA (N=70)	RA (N=70)	P value
Procedural Detail:			
Bifurcation Lesion	6 (9%)	13 (1.8%)	0.10
Lesion Length (mm)	25.2±12.5	26.8±13.0	0.45
Lesion Diameter (mm)	2.6±0.5	2.7±0.4	0.40
Procedural Characteristics:			
Pre-PCI LVEF (Mean value in %)	44.9±12.9	46.4±13.0	0.49
Heparin use	55 (78.6%)	48 (68.6%)	0.18
Bivalirudin Use	38 (54.3%)	38 (54.3%)	1.00
Femoral Artery Access	46 (65.7%)	47 (67.1%)	0.35
IABP during the procedure	8 (11.4%)	7 (10%)	0.78
Procedural Outcomes:			
Fluoroscopy Time (min)	20.7±8.2	25.0±13.5	0.02
Contrast Volume (ml)	153.3±65.2	154.7±58.1	0.89
Safety Outcomes:			
Significant Dissection	0 (0%)	0 (0%)	N/A
Perforation	0 (0%)	0 (0%)	N/A
Cardiac Tamponade	0 (0%)	0 (0%)	N/A
Vascular Complications	0 (0%)	0 (0%)	N/A
Primary Outcome:			
In-Hospital Mortality	0 (0%)	2 (2.9%)	0.15
Secondary Outcomes:			
Myocardial Infarction	8 (11.4%)	11 (15.7%)	0.46
Cardiogenic Shock	4 (5.7%)	6 (8.6%)	0.51
Congestive Heart Failure	1 (1.4%)	8 (11.4%)	0.01
Composite of Stroke	0 (0%)	0 (0%)	N/A
Blood Transfusion	8 (11.4%)	8 (11.4%)	1.00
Bleeding Within 72 Hours	6 (8.6%)	5 (7.1%)	0.75
Conversion to CABG	0 (0%)	2 (2.9%)	0.15
Length of Stay (Days)	2.5±4.5	5.7±6.5	<0.001

CRT-100.31

Utility of Temporary Pacing Wire in Patients Undergoing Rotational Atherectomy



Hoyle L. Whiteside III, Supawat Ratanapo, Tarun Sharma, Arun Nagabandi, Deepak Kapoor
 Medical College of Georgia at Augusta University, Augusta, GA

BACKGROUND Bradycardia is a known complication of rotational atherectomy (RA). The manufacturer of the Rotablator system (Boston Scientific, MA) recommends placement of a temporary pacing wire in patients undergoing RA of lesions in the right coronary artery (RCA) and/or dominant left circumflex artery (LCx). No formal guideline recommendations exist in this setting and the utility of prophylactic temporary pacing wire placement remains controversial.

METHODS We retrospectively identified all patients undergoing RA with target lesions in the RCA and/or LCx over a two-year period. Chart review was performed and data regarding patient demographics, procedural characteristics, and temporary pacing wire utility were collected.

RESULTS Sixty patients met inclusion criteria for our study. Demographic data and procedural characteristics are reported in Table 1. TIMI 3 flow was achieved in 60 (100%) cases. A temporary pacing wire was placed in 9 (15%) cases. No occurrences of hemodynamically significant bradycardia were reported in the remaining 51 (85%) cases.

CONCLUSION While bradycardia is a known complication of RA to RCA and LCx, prophylactic placement of a temporary pacing wire is an operator-dependent decision. In our population, bradycardia requiring temporary pacing was not a common occurrence and the majority of cases did not require a temporary pacing wire. In addition to routine defibrillation pad placement, we recommend routine insertion of an appropriate central venous access sheath without placement of a prophylactic pacing wire in patients undergoing RA to RCA or LCx, should emergent pacing be required.