

Cardiac catheterization procedures with or without intervention were identified by procedural codes 37.22, 37.23, and 88.5x. PCI was identified by codes 00.66, 36.01, 36.05, 36.07, and 36.09. CABG by code 44. Propensity score (PS) matching analysis was used to compare outcomes of patients underwent various treatments adjusted for their comorbidities.

RESULTS Total of 1,400 patients with paraplegia were identified from 402,569 adult AMI admissions (3.5 per 1,000 admissions) with average age of 67.8±14.6 with 41% female, 65% white and 16% black. In addition to paraplegia, these patients have significant comorbidities such as hypertension (52%), diabetes mellitus (30%), and hyperlipidemia (25%). The overall in-hospital mortality was high (22.4%, 95% CI 20.2-24.6). The majority underwent medical therapy without a cardiac catheterization (1172 out of 1400, 83.7%), with 101 (7.2%) who underwent a diagnostic cardiac catheterization without revascularization, 100 (7.1%) who received PCI, and 27 (1.9%) patients who underwent CABG. Comparison of 127 treated with revascularization versus without (635 PS matched patients) found that revascularization was associated with lower mortality (9.5 (CI 4.3-14.6) vs. 22.0 (18.8-25.3), p <0.01), shorter LOS (13.0 (9.9-16.0) vs. 16.9 (15.1-18.8), p = 0.08), but higher hospital charges (\$130,000 (\$110,000-\$150,000) vs. \$92,000 (\$84,000-\$101,000), p <0.001). Comparison between PCI (115) and PS-matched CABG (23) found that PCI was associated with significantly lower mortality (1.7 (0-4.1) vs. 21.7 (4.5-38.9), p<0.001), shorter LOS (14.2 (11.2-17.1) vs. 24.8 (17.7-32.0), p<0.001) and lower hospital charges (\$144,000 (\$122,000-\$167,000) vs. \$231,000 (\$183,000-\$280,000), p<0.01).

CONCLUSION AMI in patients with paraplegia is a small but unique subgroup of AMI patients that deserves attention. These patients had high in-hospital mortality, low rate of using invasive diagnostic and treatment approaches. Propensity score matching analysis revealed that revascularization was associated with favorable outcome. PCI was associated with significantly better outcome than CABG.

ATHERECTOMY DEVICES

CRT-100.28

Safety and Feasibility of Rotational Atherectomy in Elderly Patients with Severely Calcified Coronary Lesions: Clinical Outcomes at Six Months



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

BACKGROUND In elderly patients, percutaneous coronary intervention (PCI) is associated with worse short-term outcomes and increased rates of angiographic complications. Furthermore, severe coronary artery calcification (CAC) decreases the probability of optimal PCI. Many patients with severe CAC benefit from lesion modification with rotational atherectomy (RA), however the safety and feasibility of RA in the elderly is not well-established.

METHODS We retrospectively identified all patients; age greater than 75, undergoing RA over a three-year period. Data regarding patient demographics, procedural characteristics, and incidence of major adverse cardiac events (MACE) was collected.

RESULTS Twenty-eight patients were included in data analysis. Demographic data, procedural characteristics, and clinical outcomes are reported in Table 1. Procedural success was achieved in all cases and no MACE occurred within 30 days of PCI. At 6 months, 17.9% (5/24) of patients had experienced MACE. The incidence of MACE was driven by NSTEMI, Type II MI, and target vessel revascularization. Two deaths were reported. One patient developed ventricular tachycardia while undergoing sigmoidectomy and the other was enrolled in hospice care for metastatic malignancy.

CONCLUSION RA is an indispensable tool in the elderly population, as they are more likely to have CAC and other comorbidities that limit their candidacy for surgical revascularization. In our population, RA was successful in all cases and procedural complications were rare. RA is a safe and feasible technique that should be considered in elderly patients with severe CAC.

Population Demographics and Procedural Characteristics (N=28)		Clinical Outcomes at 6 months (N=28)	
Demographics	Result ± SD (%)	MACE (Cumulative Totals)	Result ± SD (%)
Age	80.36 ± 4.36	1 month	0 (0)
Gender (Male)	17 (60.7)	2 month	1 (3.6)
Diabetes Mellitus	14 (50.0)	3 month	3 (10.7)
HLD	28 (100)	4 month	4 (14.3)
Hx of Stroke	3 (10.7)	5 month	4 (14.3)
Hx of MI	10 (35.7)	6 month	5 (17.9)
Hx of PCI	9 (32.1)	Lost to follow up at 6 months	4 (14.3)
Hx of CABG	3 (10.7)	MACE (Clinical Events)	
Echocardiograms	N = 27 (96.4)	Death	2 (7.1)
Ejection Fraction	45.04 ± 15.79	Sustained Ventricular Arrhythmia	1 (3.6)
Less than 30%	6 (22.2)	Myocardial Infarction	
30% to 50%	9 (33.3)	STEMI	0 (0)
50% or greater	12 (44.4)	NSTEMI	2 (7.1)
Procedural Characteristics	Result ± SD (%)	Type 2 MI*	2 (7.1)
IVUS	28 (100)	Target Vessel Revascularization	4 (14.3)
Procedural Success	28 (100)	Stroke	0 (0)
Access		Angiographic Complications	
Femoral	26 (92.9)	Coronary Dissection/Tamponade	1 (3.6)
Radial	2 (7.1)	Hemorrhage, arterial access (impella)	1 (3.6)
Location of Target Lesion	N= 55 (% of patient population)	Repeat Catheterization	6 (21.4)
Prox. RCA	5 (17.9)	Repeat Intervention Performed	3 (10.7)
Mid RCA	5 (17.9)	Mean Time to Repeat catheterization (days)	80.8 ± 52.7
Distal RCA	2 (7.1)	Median Time to Repeat catheterization (days)	60
Prox. LAD	1 (3.6)		
Mid LAD	1 (3.6)		
Distal LAD	1 (3.6)		
Prox. Lcx	2 (7.1)		
Mid Lcx	2 (7.1)		
Number of vessels targeted per case			
1	24 (85.7)		
2	4 (14.3)		
Burr Size			
1.25	7 (25.0)		
1.5	18 (64.3)		
1.75	4 (14.3)		
2.0	2 (7.1)		
2.15	1 (3.6)		
2.25	1 (3.6)		
Stents per case			
0	3 (10.7)		
1	10 (35.7)		
2	8 (28.6)		
3	5 (17.9)		
4	2 (7.1)		
Type of stent used by case	N=25 (% of patient population)		
DES	22 (78.6)		
BMS	3 (10.7)		
Sheath size (Fr)			
6	7 (25.0)		
6.5	1 (3.6)		
7	14 (50.0)		
8	9 (32.1)		
TIMI 3 flow	28 (100)		
Procedural Support			
IABP	3 (10.7)		
Temporary pacer	4 (14.3)		
LVAD (Impella)	2 (7.1)		

*Type 2 MI is defined as: myocardial infarction secondary to ischemia due to other increased oxygen demand or decreased supply, e.g. coronary artery spasm, anemia, arrhythmia, hypertension, or hypotension.

CORONARY

CRT-100.29

Clinical Outcomes of Atherectomy Prior to Percutaneous Coronary Intervention in Patients on Dialysis (COAP-HD Study)



Rajkumar Doshi,¹ Evan Shlofmitz,² Perwaiz Meraj¹
¹Northwell Health, Manhasset, NY; ²Cardiovascular Research Foundation, New York, NY

BACKGROUND Lesion preparation is often essential in patients with coronary artery calcification (CAC) undergoing percutaneous coronary intervention (PCI). Patients with end-stage renal disease on hemodialysis have increased severity of CAC, increasing the complexity of PCI. There here have been no studies that have compared the head-to-head outcomes of dialysis patients undergoing orbital atherectomy (OA) compared to rotational atherectomy (RA).

METHODS This prospective, observational, multicenter study assessed OA vs. RA in dialysis patients with CAC. Thirty-five thousand five hundred ninety patients from 5 tertiary-care hospitals who had PCI between January 2011 and April 2016 were identified. Matched analysis of all dialysis patients who had OA or RA prior to PCI was performed (n=62).

RESULTS There were 31 patients in each cohort. There was no significant difference in the primary endpoint, death on discharge (0% vs. 3.2%, p=0.31). Multivariate adjusted analysis demonstrated no statistically significant differences in procedural and in-hospital outcomes (Table 1).

CONCLUSION Atherectomy in patients on dialysis, a complex, high-risk subset of patients, with CAC has not been well-studied. In this first head-to-head analysis of dialysis patients with CAC undergoing atherectomy prior to PCI, there were no significant differences between either modality, with low rates of procedural complications in both groups. Multicenter randomized studies are needed to confirm the optimal atherectomy strategy in this rarely studied patient population.