

# SINGLE CENTER COMPARATIVE OUTCOME STUDY ON EARLY VS LATE INTERVENTION IN NON-ST SEGMENT ELEVATION MYOCARDIAL INFARCTION.

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## BACKGROUND

- Sparse data available on early intervention (intervention done <= 6 hours) versus late intervention (intervention done 6 to 24 hours) in patients presenting with Non-ST segment elevation myocardial infarction (NSTEMI).
- While the role of early primary cutaneous intervention (PCI) in patients with STEMI is well established, controversy exists in NSTEMI population on optimal timing for invasive intervention where the culprit artery is often patent.

## OBJECTIVES

- We sought to determine 30 day and 1 year clinical outcomes post percutaneous coronary intervention (PCI) at a large tertiary care referral center using 6 hours as a cut-off time.

## METHODS

- Comprehensive retrospective analysis on 960 NSTEMI patients who underwent intervention within 24 hours of their presentation were identified from electronic medical record (Cerner and EPIC) from a single tertiary care center.
- Patients were divided into two groups: early intervention group (EIG: PCI <= 6 hours) and late intervention group (LIG: PCI 6 to 24 hours).
- Continuous and categorical variables are presented as mean ± standard deviation and counts (proportions) respectively. Comparison was performed using the Wilcoxon ranksum test, chi square and Fishers exact tests as appropriate

## RESULTS

Baseline demographics							P value
Characteristics	Overall		<=6 hours (n=527)	%	6<hours <=24 (n=433)	%	
	n=960	%	n=527	%	n=433	%	
Age	62	53 - 73	63	55- 74	61	52 -71	0.0039
Female	328	34.2%	173	32.8%	155	35.8%	0.3344
Race							
White	614	64.0%	304	57.7%	310	71.6%	
Black	35	3.6%	25	4.7%	10	2.3%	
Other	11	1.1%	3	0.6%	8	1.8%	
Hypertension	684	71.3%	368	69.8%	316	73.0%	0.2833
Diabetes mellitus	211	22.0%	103	19.5%	108	24.9%	0.0445
Dyslipidemia	667	69.5%	358	67.9%	309	71.4%	0.2507
Smoking	449	46.8%	275	52.2%	174	40.2%	0.0002
Chronic kidney disease	26	2.7%	12	2.3%	14	3.2%	0.3638
h/o coronary artery disease	386	40.2%	200	38.0%	186	43.0%	0.1155
h/o cerebrovascular disease	110	11.5%	48	9.1%	62	14.3%	0.0117
Peripheral vascular disease	87	9.1%	45	8.5%	42	9.7%	0.533
No. of lesions							0.0202
1	360	37.5%	200	38.0%	160	37.0%	
2	325	33.9%	194	36.8%	131	30.3%	
3	273	28.4%	132	25.0%	141	32.6%	
Left main stenosis	148	15.4%	77	14.6%	71	16.4%	0.4457
circumflex stenosis	747	77.8%	416	78.9%	331	76.4%	0.3548
LAD stenosis	891	92.8%	485	92.0%	406	93.8%	0.3006
RCA stenosis	792	82.5%	428	81.2%	364	84.1%	0.2475
Ramus stenosis	60	6.3%	39	7.4%	21	4.8%	0.1043
Use of stent							0.0012
No stent	55	5.7%	33	6.3%	22	5.1%	
Drug eluting stent	675	70.3%	344	65.3%	331	76.4%	
Bare metal stent and Drug eluting stent	17	1.8%	9	1.7%	8	1.8%	
Bare metal stent	213	22.2%	141	26.8%	72	16.6%	

## 30 days and 1 year outcome data

Outcome	Total (n=960)	<=6 hrs (n=527)	<6 hrs <=24 (n=433)	OR	LCL	UCL	P value
Door to balloon time	5.4	3.4	15.6				<0.0001
30 day MI	30	18	12	1.2	0.6	2.6	0.5681
30 day CVA	3	2	1	1.6	0.1	18.2	0.6815
30 day HF	40	27	13	1.7	0.9	3.4	0.1017
30 day mortality	13	6	7	0.7	0.2	2.1	0.5236
1 year MI	89	53	36	1.2	0.8	1.9	0.3542
1 year CVA	11	6	5	1.0	0.3	3.3	0.9813
1 year HF	98	60	38	1.3	0.9	2.0	0.1839
1 year mortality	43	23	20	0.9	0.5	1.7	0.8495

## USE OF MEDICATIONS

Characteristics	Overall		<=6 hours (n=527)	%	6<hours <=24 (n=433)	%	P value
	n=960	%	n=527	%	n=433	%	
Aspirin on discharge	855	89.1%	481	91.3%	374	86.4%	0.0156
Statin	828	86.3%	465	88.2%	363	83.8%	0.0488
Bivalirudin	382	39.8%	191	36.2%	191	44.1%	0.0132
Gp2b3a inhibitor	249	25.9%	137	26.0%	112	25.9%	0.9635
Heparin	699	72.8%	400	75.9%	299	69.1%	0.0176
Warfarin	6	0.6%	4	0.8%	2	0.5%	0.5611

## CONCLUSION

- Our study, showed invasive intervention conducted within 24 hours, less than or equal to 6 hrs vs more than 6 hrs, has no difference in clinical outcomes (myocardial infarction, heart failure, cerebrovascular accident and mortality) at 30 days or at 1 year with the reperfusion practices in the NSTEMI population.

## DISCLOSURES

All authors have nothing to disclose.

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