IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 19, Issue 2 Ser.4 (February. 2020), PP 33-37
www.iosrjournals.org

A study of Clinical and Angiographic Profile of Elderly Patient having Ischemic heart Disease in a Medical College Hospital of Kolkata

Dr. Pradip Kumar Ghoshal[1], Dr. Tanmoy Kanti Goswami[2]
1.Assistant Professor, Dept. of Cardiology, NRS Medical College, Kolkata
2. Assistant Professor, Dept. of Pharmacology, NRS Medical College, Kolkata
Corresponding Author: Dr. Tanmoy Kanti Goswami [Assistant Professor, Dept. of Pharmacology, NRS Medical College, Kolkata]

Abstract:
Objective: *The aim of the study was to discuss the role of Percutaneous Coronary Intervention(PCI) in elderly population in ischemic heart disease (Acute Coronary Syndrome and Stable Ischemic Heart Disease) and the outcome of effective PCI.*
Back ground: This type study has not been conducted in eastern India in recent past.
Methods: This is a single blind cross-sectional observational study. This study was conducted in cardiology Department of NRS Medical College and Hospital on elderly patient having ischemic heart disease for a period of eighteen months. Exclusion criteria was subject with low ejection fraction (less than 35%) and Chronic Kidney Disease (CKD). Diagnosis of ischemic heart disease was done according to criteria of American Heart Association.
Results: In the present study maximum case presented with Acute Coronary Syndrome (ACS) was 82%. Nature of the angiographic lesion was diffused in the most of the cases (75%). Multi-vessels involvement was seen in 77% cases. Left main vessel involvement was 11% and total coronary occlusion was 28% cases. Acute stent thrombosis was seen in 3% cases. Seven percent cases had developed cardiogenic shock and Three percent cases had suffered from acute kidney injury after PCI. Two percent patients died after intervention. In our study incidence of complications after intervention like bleeding complication, acute stent thrombosis, development of shock, acute kidney injury and death are not statistically significant.
Conclusion: Management of elderly patient is still challenging and patient selection for interventional strategy is most important issue.
Key words: Percutaneous Coronary Intervention , Acute Coronary Syndrome, Stable Ischemic Heart Disease, Cardiogenic Shock, Acute stent thrombosis

---

Date of Submission: 20-01-2020 Date of Acceptance: 10-02-2020

I. Introduction:

Ischemic Heart Disease is a major cause of mortality and morbidity not only in India but also abroad. Age is one of the non modifiable risk factor for Coronary Artery Disease (CAD)[1]. Elderly patients having CAD often present with atypical symptoms. There is some reservation of coronary intervention in elderly due to shorter life expectancy , presence of co- morbidities and increased bleeding risk from anti-platelet and anticoagulant medications. There is paucity of clinical trial investigating the challenges of invasive treatment strategies of elderly population having CAD. The term elderly usually refers to person older than 70 years [2]. Acute Coronary Syndrome accounts for approximately one third of all deaths in elderly patients at USA and the invasive strategies to manage patients having CAD in elderly poses challenge because of multiple co-morbidities [3]. Patients having ACS or Stable Ischemic Heart Disease refractory to medical treatment managed with PCI have lowered cardio vascular morbidity and mortality.

GENERAL OBJECTIVES:
This study was conducted to determine the role of PCI in the elderly patients with Stable Ischemic Heart Disease(SIHD), Unstable Angina, Non-ST elevated Myocardial Infarction and ST elevated Myocardial Infarction.

SPECIFIC OBJECTIVES-
To study the outcome of effective PCI in Elderly Patients

To address clinical challenges met when considering PCI in this cohort.

II. Material And Methods:

This single blind cross-sectional observational study was conducted in Dept. of Cardiology , NRS Medical College and Hospital, Kolkata on 100 elderly patients having SIHD and ACS (Unstable angina, Non ST elevated Myocardial Infarction and ST elevated Myocardial Infarction) of a period of 18 months. Subjects with low ejection fraction (less than35%) and CKD (Serum creatinine more than 2 mg/dl) were excluded from the study.

Diagnosis of SIHD was done according to the criteria of American Heart Association. After admission of patients satisfying inclusion criteria enrolled in this study and underwent coronary angiography. Angiographic profile of coronary artery disease was analysed and studied and also recorded the complications during angiography.

III. Results And Analysis:

In the present study, most of the cases presented with acute coronary syndrome (82%) and 18% presented as stable ischemic heart disease. Nature of the angiographic lesion was diffuse in most of the cases (75%) followed by focal. In angiography multi-vessel involvement was seen in 77% cases. Left main involvement was observed in 11% cases and total occlusion was found in 28% cases. Bleeding complication was seen in 6% cases. In our study acute stent thrombosis was seen 3% cases and 7% cases had developed cardiogenic shock. In our study 3% cases had acute kidney injury, stroke in1% , coronary dissection after PCI 2% cases and 2% cases died after intervention. 48 cases with STEMI had diffuse lesion and 27% casers presented with total occlusion. No significant associations were observed in respect to bleeding complications, acute stent thrombosis and development of shock in post PCI cases. Significant association was not noted in case of Post-PCI heart failure, acute kidney injury, stroke, coronary dissection and death .

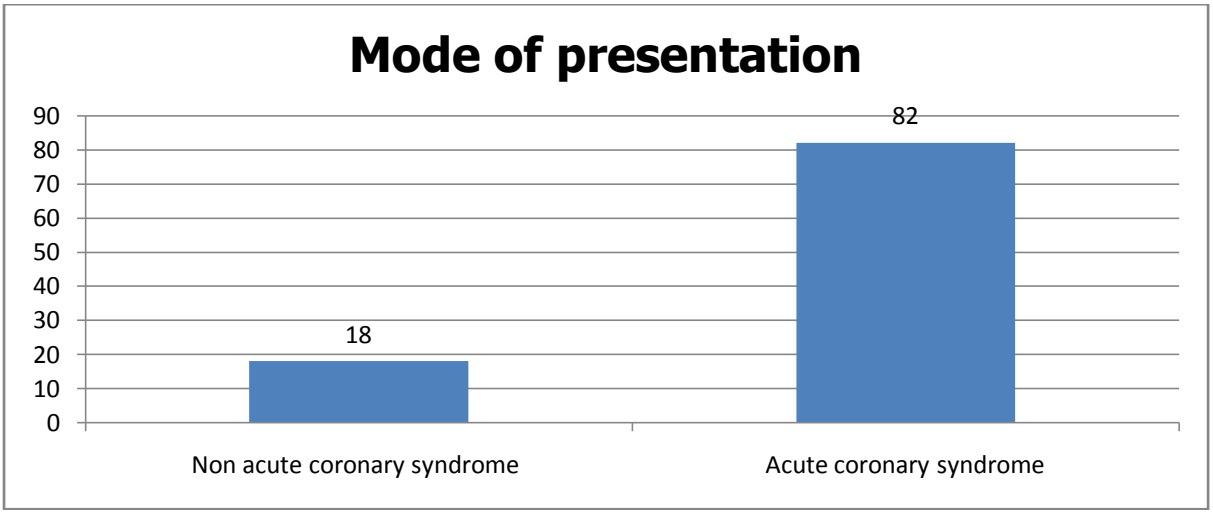

Fig.1 Distribution according to mode of presentation

Type of MI	Number	Percent
Non ST Elevated myocardial infarction	15	15.00%
Stable ischemic heart disease	18	18.00%
ST Elevated myocardial infarction	57	57.00%
Unstable angina	10	10.00%

Table 1 – Distribution according to type of presentation

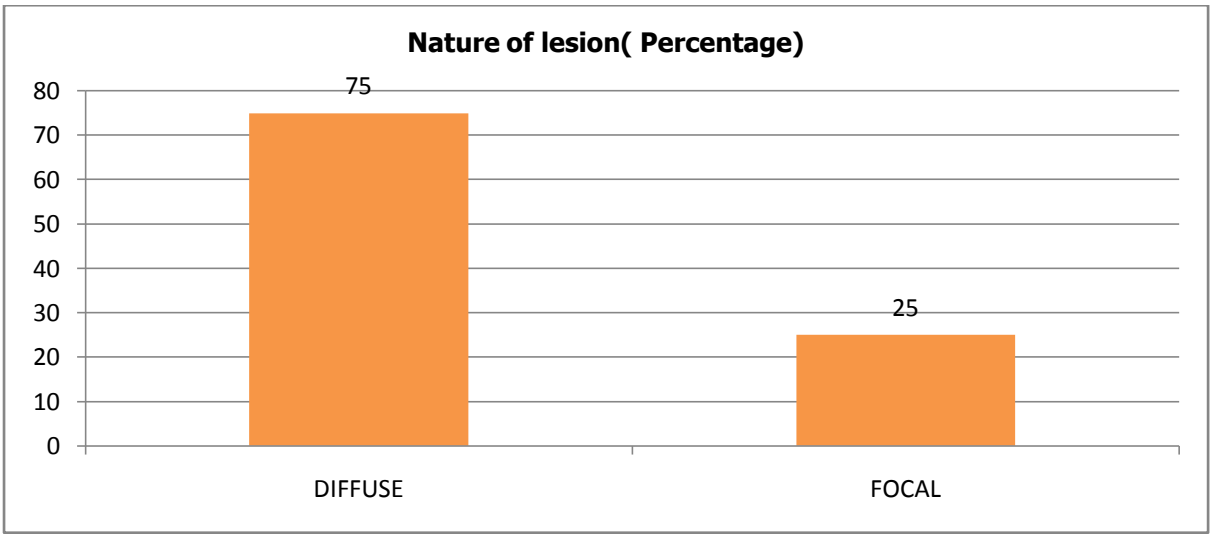

Fig.2 Distribution according to nature of lesion

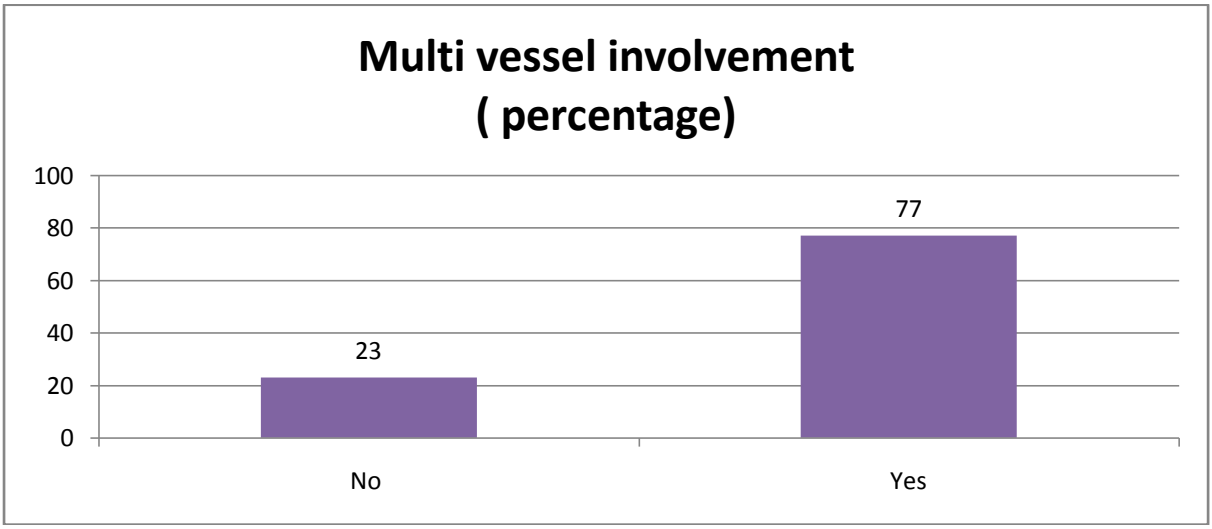

Fig.3 Distribution according to vessel involvement

Total occlusion	Number	Percent
No	72	72.00%
Yes	28	28.00%

Table 2- Distribution according to total occlusion

Left main involvement	Number	Percent
No	**89**	**89.00%**
Yes	**11**	**11.00%**

Table 3- Distribution according to left main vessels involvement

Bleeding complications	**NSTEMI**	**STEMI**	**UA**	**SIHD**
No	14	54	10	16
Yes	1	3	0	2
Chi-square	1.539	P value	0.653	Not significant
Acute stent thrombosis	NSTEMI	STEMI	UA	SIHD
No	14	55	10	18

Yes	1	2	0	0
Chi-square	1.61	P value	0.657	Not significant
Development of shock post PCI	NSTEMI	STEMI	UA	SIHD
No	13	53	9	18
Yes	2	4	1	0
Chi-square	2.417	P value	0.49	Not significant
Slow flow post PCI	NSTEMI	STEMI	UA	SIHD
No	13	54	10	18
Yes	2	3	0	0
Chi-square	3.675	P value	0.299	Not significant

Table 4- Association of complications with type of MI

heart failure post PCI	**NSTEMI**	**STEMI**	**UA**	**SIHD**
No	13	55	9	18
Yes	2	2	1	0
Chi-square	3.934	P value	0.269	Not significant
Whether patient required ICU or not	NSTEMI	STEMI	UA	SIHD
No	12	48	8	18
Yes	3	9	2	0
Chi-square	3.829	P value	0.28	significant
Acute kidney injury	NSTEMI	STEMI	UA	SIHD
No	15	54	10	18
Yes	0	3	0	0
Chi-square	2.333	P value	0.506	Not significant
Requirement of dialysis	NSTEMI	STEMI	UA	SIHD
No	15	57	10	18
Yes	0	0	0	0
Chi-square	0.882	P value	0.951	Not significant

Table 5- Association of complications with type of MI

Development of atrial fibrillation	**NSTEMI**	**STEMI**	**UA**	**SIHD**
No	14	57	10	18
Yes	1	0	0	0
Chi-square	5.724	P value	0.126	Not significant
Stroke	NSTEMI	STEMI	UA	SIHD
No	15	56	10	18
Yes	0	1	0	0
Chi-square	0.762	P value	0.859	Not significant
Coronary dissection	NSTEMI	STEMI	UA	SIHD
No	14	57	9	18
Yes	1	0	1	0
Chi-square	6.463	P value	0.091	Not significant
Death	NSTEMI	STEMI	UA	SIHD

No	14	56	10	18
Yes	1	1	0	0
Chi-square	6.881	P value	0.088	Not significant

Table 6- Association of complications with type of MI

IV. Discussion

The present observational cross-sectional study was done at our tertiary care centre to assess the clinical and angiographic profile and in hospital outcome of effective PCI in elderly patients. Age is an independent predictor of death after PCI[4]. The presence of significant co-morbidities such as renal insufficiency, multi-organ dysfunction, and extensive vascular disease may explain the increased mortality rates in elderly patients. Most of the cases presented with acute coronary syndrome (82%) while 18% presented with non acute coronary syndrome. This is similar to the study of Galon MZ et al[5]. In our study, most of the cases had ST elevated MI (57%) followed by stable ischemic heart disease (18%) and non ST elevated MI (15%). Ten percent cases had unstable angina in this sudy. Nature of lesion was diffuse in most of the cases (75%) followed by focal (25%).This is comparable to the study of Nammas W et al[6]. It was observed that total occlusion was seen in 28% cases in our study. Bleeding complication was observed in 6% cases. This is consistent with the study of Montalescot G et al[7][190].

Development of shock was observed in 7% cases, Acute stent thrombosis in 3% cases and Slow flow was seen in 5% cases. Heart failure was also observed in 5% cases and 3% cases had acute kidney injury after intervention. No cases had required of dialysis. Development of atrial fibrillation was observed in 1 case. Stroke and coronary dissection had developed 1% and 2% of cases respectively. Numasawa Y et al[8] noted similar observations in their study.

In our study, no significant association were observed respect to development of atrial fibrillation, stroke, coronary dissection, and death . This is comparable to the studies of Bach RG et al[9] and Numasawa Y et al[8].

PCI has been proven to be feasible in the older population. Over the years, with advent of advanced technologies as well as cardiac imaging modalities and there is a trend in performing more invasive procedures on older patients has gradually appeared.

V. Conclusion

The management of old patients with CAD is still challenging, even in current clinical practice, and patient selection for an invasive revascularization strategy is the most important issue. The high- risk profiles of periprocedural complications, including mortality and bleeding, along with clinical, functional, status of the patients should be considered appropriately when performing PCI for very elderly patients.

References:

[1]. Kung HC, Hoyert DL, Xu J, et al. Division of vital statistics. deaths: final data for 2005. National vital statistics reports. Natl Vital Stat Rep. 2008;56:1–12
[2]. Yancik R. Cancer burden in the aged: an epidemiologic and demographic overview. Cancer 1997;80(7):1273–83
[3]. Kochanek KD, Smith BL. Deaths: preliminary data for 2002. Natl Vital Stat Rep 2004;52(13):1–47.
[4]. Lincoff AM, Kleiman NS, Kereiakes DJ et al. Long-term efficacy of bivalirudin and provisional glycoprotein IIb/IIIa blockade vs heparin and planned glycoprotein IIb/IIIa blockade during percutaneous coronary revascularization: REPLACE-2 randomized trial. JAMA 2004; 292(6):696–703.
[5]. Galon MZ, Meireles GC, Kreimer S et al. Clinical and angiographic profile in coronary artery disease: hospital outcome with emphasis on the very elderly. Arq Bras Cardiol. 2010 Oct;95(4):422-9.
[6]. Nammas W, de Belder A, Niemela M et al. Long-term clinical outcome of elderly patients with acute coronary syndrome treated with early percutaneous coronary intervention: Insights from the BASE ACS randomized controlled trial. EJOM. 2017, Vol 37, Pages 43–48.
[7]. Montalescot G, White HD, Gallo R, Cohen M, Steg PG, Aylward PE, et al. Enoxaparin versus unfractionated heparin in elective percutaneous coronary intervention. N Engl J Med 2006;355(10):1006–17.
[8]. Numasawa Y, Inohara T, Ishii H et al. Comparison of Outcomes After Percutaneous Coronary Intervention in Elderly Patients, Including 10 628 Nonagenarians: Insights From a Japanese Nationwide Registry (J-PCI Registry). Journal of the American Heart Association. 2019;8(5):e011183.
[9]. Bach RG, Cannon CP, Weintraub WS, et al. The effect of routine, early invasive management on outcome for elderly patients with non-ST-segment elevation acute coronary syndromes. Ann Intern Med. 2004;141:186–195.

Dr. Tanmoy Kanti Goswami, etal. "A study of Clinical and Angiographic Profile of Elderly Patient having Ischemic heart Disease in a Medical College Hospital of Kolkata". *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(2), 2020, pp. 33-37.