



## Comparison of Clinical and Arteriographic Profile of Young And Geriatric Patients With Ischemic Heart Disease in A Tertiary Care Centre of Maharashtra

## KEYWORDS

child abuse, somatization, psychosis, phobic anxiety

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**ABSTRACT** *Objective: To analyse the clinical and coronary arteriographic pattern in patients with ischemic heart disease in geriatric patients (age > 60 yr) and to compare it with arteriographic pattern in young and middle aged (age < 60 yrs) ischemic heart disease patients*

*Methods: This is hospital based cross-sectional study. We analysed coronary arteriographic profile of all the geriatric patients with ischemic heart disease who had undergone coronary angiography from Jan-2015 to Jan-2016 in detail and compared it with young and middle aged patients of ischemic heart disease undergoing coronary angiography during same period.*

*Results: Total number of patients in group 1 (age < 60 yr) was 149 and in group 2 (age > 60yrs) was 111. Coronary angiography was found to be normal in 38/149(25.5%) patients in group 1 and 34/111(30.6%) patients in group 2.*

*Single vessel disease (SVD) was most common form of involvement seen in 44/111 (39.6%) patients of group2 and 64/149 (42.9%) patients of group 1. In SVD left anterior descending coronary artery was the most common culprit artery in both the groups, 23/111 (20.7%) in group 2 and 49/149(32.8%) in group 1 (p=0.03), followed by right coronary artery involvement in 12/111(10.8%) in group 2 and 9/149(6%) in group 1 (p =NS). Double vessel disease affecting right coronary artery was the second most common form of involvement in both the groups, 21/111 (18.9%) in group 2 and 30/149(20.13%) in group 1. The incidence of triple vessel disease was 12/111(10.08%) in group 2 and 17/149(11.4%) in group 1. Left main coronary involvement and coronary ectasia were exclusively seen in group 1.*

*Conclusion: Single vessel disease was most common form of involvement and LAD was most common culprit vessel. Left main coronary involvement and coronary ectasia were exclusively seen in age group less than 60 years.*

**Introduction:**

The prevalence of coronary artery disease (CAD) has been progressively increasing worldwide as a result of increased life expectancy and survival to acute conditions. Cardiovascular diseases have significant morbidity and mortality in elderly. The World Health Organisation (WHO) considers elderly in developing countries, those who are 60 years old or older and in developed countries, individuals aged 65 years old or older.<sup>1</sup> In India, the elderly constitute 7.4% of the population.<sup>2</sup>

According to Government of India statistics, cardiovascular disorder account for one third of elderly mortality.<sup>3</sup> It has been well established that aging affects cardiovascular risk factors, incidence, clinical manifestations and prognosis. The prevalence has increased as indicated by studies in the last decade. Projections for future also estimate a similar trend. Need of the hour is to track down and closely monitor the prevalence of disease with maintenance of proper and detailed database at hospital, community and other levels. This shall facilitate in evaluating the effect of corrective measure and health policies also.<sup>4</sup>

However previous studies have been focused less on the geriatric populations. The aim of the study was to evaluate patients with suspected coronary artery disease (CAD), who underwent cardiac catheterisation with special focus

on geriatric patients.

**Methods:**

This is an Institutional based cross sectional study. We collected data of all the patients of Ischemic Heart Disease, who underwent coronary arteriography from Jan 2015 to Jan 2016. Total 260 coronary arteriographies were performed during the study period. The patients with age <60 were categorized as group 1 and age >60 as group 2. The reasons for catheterisation of these patients were history of angina, previous or an acute myocardial infarction, positive treadmill test and / or multiple coronary risk factors. Exclusion criteria were-

**Age less than 18 years**

- Patients with valvular, congenital heart disease or cardiomyopathies.
- We analysed the coronary arteriographic profile in detail.

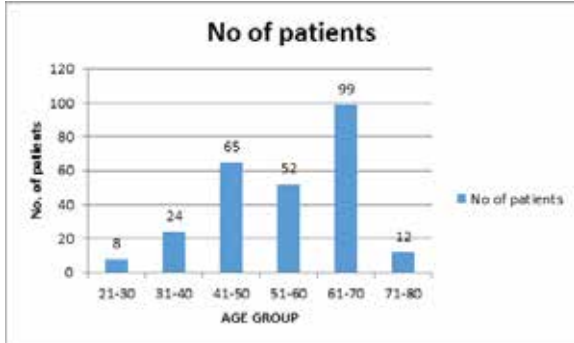
**Statistics:**

SPSS 20.0 was used to code data and analyse the data. The level of significance was set at P < 0.05.

Results:

TABLE 1: AGE DISTRIBUTION

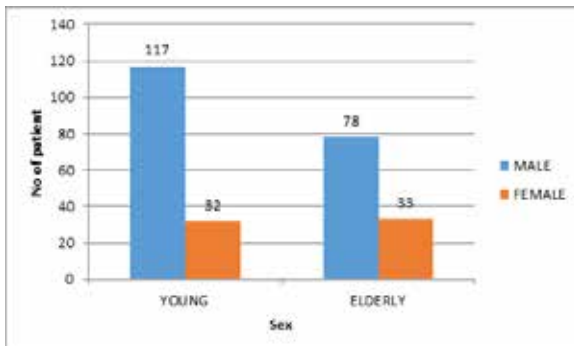
Age	No of patients
21-30	8
31-40	24
41-50	65
51-60	52
61-70	99
71-80	12



GRAPH 1: AGE DISTRIBUTION

TABLE 2: SEXWISE DISTRIBUTION OF STUDY POPULATION

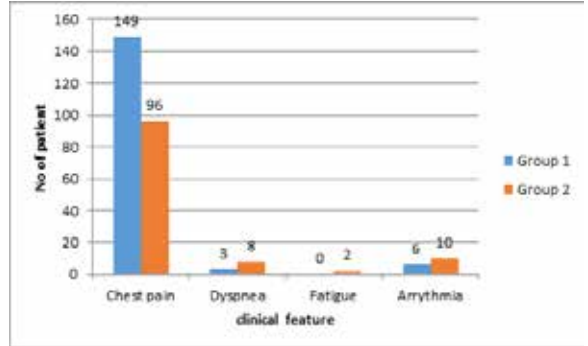
SEX	YOUNG	ELDERLY	TOTAL
MALE	117	78	195
FEMALE	32	33	65
TOTAL	149	111	260



Graph 2: SEXWISE DISTRIBUTION OF STUDY POPULATION

TABLE 3: Comparison of coronary risk factors between the two groups:

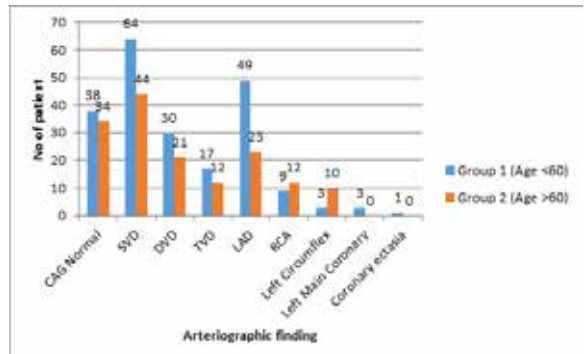
RISK FACTOR	NON ELDERLY (n = 149)	ELDERLY(n = 111)	P VALUE
Mean Age	46.71±8.03	65.04±4.5	<0.001
Female	32 (21.04)	33 ( 29.7)	0.12
BMI (kg/m <sup>2</sup> )	23.21 ± 2.68	20.70 ± 2.57	<0.001
Hypertension	102 (68.4%)	73 (65.7%)	0.444
Hyperlipidemia	107 (71.8%)	76 (68.4%)	0.05
Diabetes mellitus	41 (27.5)	25 (22.5)	0.097
Smoking	65 (43.6)	57 (51.3)	0.799
Family History of IHD	26 (17.4)	23 (20.7)	0.614



Graph 3: CLINICAL FEATURES IN STUDY POPULATION

TABLE 4: ARTERIOGRAPHIC FINDINGS IN STUDY POPULATION

Angiographic features	Group 1 (Age <60)	Group 2 (Age >60)	P Value
CAG Normal	38	34	0.36
SVD	64	44	0.59
DVD	30	21	0.80
TVD	17	12	0.43
LAD	49	23	0.03
RCA	9	12	0.16
Left Circumflex	3	10	0.01
Left Main Coronary	3	0	NS
Coronary ectasia	1	0	NS



Graph 4: ARTERIOGRAPHIC FINDINGS IN STUDY POPULATION

DISCUSSION:

We have compared the clinical characteristics and coronary arteriographic profile in patients of ischemic heart disease of the age above 60 years and below 60 years. We present the salient findings as follows:

Demographic features:

In group 1 maximum number of patients were in 51-60 years age group whereas in Group 2 maximum number of patients belonged to 61-70 years age group. The mean age in group1 was 46.71±8.03 and in group 2 it was 65.04±4.5, which was statistically significant. Overall maximum number of patients belonged to 61-70 years age group.

The overall male: female ratio was 3:1. This finding is similar as described by J.Prajapati et al<sup>5</sup>. The proportion of female in elderly group was higher but no statistically significant difference was found between the two groups.

Cardiovascular risk factors:

Patients in elderly group had lower body mass index

(BMI) scores ( $20.70 \pm 2.57$  kg/m<sup>2</sup> vs  $23.21 \pm 2.68$  kg/m<sup>2</sup>  $p < 0.001$ ), similar to as described by Haque et al<sup>6</sup>. However there was no significant difference in the two groups with regard to history of hypertension, diabetes mellitus and family history of coronary heart disease ( $p > 0.05$ ). This finding was similar as described by Qiao-Juan Huang et al<sup>7</sup>.

#### Clinical features:

Mode of presentation was chest pain in all patients of group 1. In group 2, majority of patients presented with chest pain but few had atypical presentations like dyspnea and fatigue, which were statistically non significant. The proportion of arrhythmia was more in elderly group but was statistically not significant. These findings were similar as described by Basavaraj.Baligar et al.<sup>8</sup>

#### Arteriographic findings:

Single vessel disease was most common form of involvement in both the groups as opposed to findings described by Sharma SN et al<sup>9</sup> where triple vessel disease was most common form of involvement. Study conducted by J.Prajapati et al<sup>5</sup> also showed preponderance of single vessel disease in older patients. In our patients LAD was the most commonly involved vessel among both the groups which was statistically significant. These findings are similar to those described by Saghir T et al<sup>10</sup>. Involvement of left circumflex artery was significantly more in group 2, findings similar to those described by J.Prajapati et al<sup>5</sup>. Left main coronary artery involvement and coronary ectasia were exclusively seen in group 1. The occurrence of double vessel disease and triple vessel disease were not statistically different in both the groups.

#### Limitations of the study:

The main limitation of this study is the lack of long term follow up. Other risk factors like homocysteinemia, hereditary thrombophilia, antiphospholipid antibodies could not be studied because of cost constraint.

#### CONCLUSION:

Older patients with low BMI are also susceptible to AMI and may have atypical presentations like dyspnea and fatigue. Single vessel disease was most common form of involvement in elderly patients and LAD was the most commonly involved vessel.

#### REFERENCES:

1. Micheli Zanotti Galon<sup>1</sup>, George César Ximenes Meireles<sup>1</sup>, Sérgio Kreimer<sup>1</sup>, Gilberto Guilherme Ajar Marchiori<sup>1</sup>, Desidério Favarato<sup>2</sup>, João Aparecido Pimenta de Almeida<sup>1</sup>, Lorena Squassante Capeline, Clinical and Angiographic Profile in Coronary Artery Disease: Hospital Outcome with Emphasis on the Very Elderly, *Arq Bras Cardiol* 2010; 95(4): 422-429
2. Situation Analysis Of The Elderly in India, Central Statistics Office Ministry of Statistics & Programme Implementation Government of India, pg 4, June 2011, [http://mospi.nic.in/mospi\\_new/upload/elderly\\_in\\_india.pdf](http://mospi.nic.in/mospi_new/upload/elderly_in_india.pdf)
3. Situation Analysis Of The Elderly in India, Central Statistics Office Ministry of Statistics & Programme Implementation Government of India, pg 9, June 2011, [http://mospi.nic.in/mospi\\_new/upload/elderly\\_in\\_india.pdf](http://mospi.nic.in/mospi_new/upload/elderly_in_india.pdf)
4. Shradha Chauhan, Dr. Bani Tamber Aeri, Prevalence of cardiovascular disease in India and its economic impact- A review, *International Journal of Scientific and Research Publications*, Volume 3, Issue 10, October 2013 1 ISSN 2250-3153
5. Prajapati J<sup>1</sup>, Joshi H<sup>2</sup>, Sahoo S<sup>3</sup>, Virpariya K<sup>3</sup>, Parmar M<sup>4</sup>, Shah K<sup>5</sup>, AGE-Related Differences of Novel Atherosclerotic Risk Factors and Angiographic Profile Among Gujarati Acute Coronary Syndrome Patients, *J Clin Diagn Res*. 2015 Jun;9(6):OC05-9. doi: 10.7860/JCDR/2015/11709.6000. Epub 2015 Jun 1
6. Haque AFMS, Siddiqui AR, Rehman SMM, Iqbal SA, Fatema NN, Khan Z,

- Acute coronary syndrome in the young – risk factors and angiographic pattern. *Cardiovascular journal*. 2010; 2(2):175-78.
7. Huang Q-J, Zhang Y, Li X-L, et al. Clinical features of coronary artery ectasia in the elderly. *Journal of Geriatric Cardiology: JGC*. 2014;11(3):185-191. doi:10.11909/j.issn.1671-5411.2014.03.012.
8. Basavaraj.Baligar,<sup>1</sup> S.S.Prasadh,<sup>2</sup> Prabhavathi,<sup>3</sup> C.N.Manjunath<sup>4</sup>, Comparison of clinical and angiographic profiles of patients with acute myocardial infarction of the age above & below 40 years, *International Journal of Clinical Cases and Investigations*. Volume 6 (Issue 4), 25:33, 1<sup>st</sup> July 2015.
9. Sharma SN<sup>1</sup>, Kaul U, Sharma S, Wasir HS, Manchanda SC, Bahl VK, Talwar KK, Rajani M, Bhatia ML, Coronary arteriographic profile in young and old Indian patients with ischaemic heart disease: a comparative study, *Indian Heart J*. 1990 Sep-Oct;42(5):365-9.
10. Saghir T, Qamar N, Sial J. Coronary angiographic characteristic of coronary artery disease in young adults under age forty years compared to those over age forty. *Pakistan Heart Journal*. 2008;41(3-4):49-56.