International Journal of Multidisciplinary Research and Development

Volume: 2, Issue: 8, 372-377
Aug 2015
www.allsubjectjournal.com
e-ISSN: 2349-4182
p-ISSN: 2349-5979
Impact Factor: 3.762

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To study the clinical profile and outcome of myocardial infarction in Young's

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Abstract
Introduction-coronary artery disease is a manifestation of many irregularities in the human body like atherosclerotic process, diabetes mellitus, dyslipedemia, hypertention, obesity, sedentary life style, many autoimmune diseases and connective tissue disorders etc., and younger population is not prevented from it. As the addiction of Alcohol, Tobacco use in many forms and many Recreational drugs (Eg. Heroin, cocaine) is going high in our Indian society our young population is at very high risk of CAD and myocardial infarction. So we decide to do research in this field and tried to understand the clinical profile of myocardial infarction in young and outcome of this entity
Aims and objectives -1 To study the symptoms, ECG and 2D Echocardiography finding in young patients of acute Myocardial Infarction (age < 40 years).,2-To study the risk factors in these patients.3-To study the complications during hospitalization and outcome of the patients
Material and methods -It was a prospective study conducted in patients admitted in ICU, in Department of Medicine, J.A.H., G.R.M.C., Gwalior for a period from June 2013 to October 2014 with Acute Myocardial Infarction (age <40years) and who were later confirmed of either STEMI or NSTEMI. These patients are compared with the patients of age group between 41to 60 years admitted with the same diagnosis. We have studied fifty patients of age $\leq$ 40 years (group I -young) with the diagnosis of Acute Myocardial Infarction and compared with the patients of age 41-60 years (group II-elder). Clinical findings, laboratory tests, ECG and Echo was done and filled into preformed form and consent was taken from patients for inclusion in study.
Results – In both groups male was predominantly involved and chest pain was major symptom, while atypical presentation was more common in elder age group patients. STEMI was significantly high in younger age group. NSTEMI was more common in group II patients (20%) as compared to group I patients (6%)Significant risk factor for MI in group I were smoking(68%), dyslipidemia (66%) followed by overweight (50%) while in group II, hypertension(42%) was the most common risk factor followed by dyslipidemia (32%), overweight (22%) and smoking (20%).In both the groups, 98% patients were in sinus rhythm at the time of admission. In group I, 2% patients had AF while in group II, 2% patients had wide complex tachycardia. In group I, patients had less complication during hospitalization. In group I, 20% patients had electrical complications and 18% patients had mechanical complications while, in group II, 34% patients had electrical complications and 28 % patients had mechanical complications. In group I, Majority of patients (86%) had normal or mild LV dysfunction while in group II, 62% patients had normal or mild dysfunction which is significant. In group I, 14% patients had moderate to severe LV dysfunction while in group II 30% patients had moderate to severe LV dysfunction. Mortality was only 2% in group I. So MI in young patients has better prognosis.
Conclusion- Myocardial infarction in young patients was more common in male, most common symptoms were chest pain followed by breathlessness and giddiness. Most common clinical presentation was in form of STEMI and Anterior MI was the commonest. current smoking, dyslipidemia and overweight found to be significant risk factor for Myocardial Infarction in young. Majority of patients had normal LV function or mild LV dysfunction, if timely intervention and proper management done, Myocardial Infarction in young has good prognosis.

Keywords: Myocardial Infarction, Coronary Artery Disease, Youngs

Introduction
More than 50 percent of worldwide risk of coronary artery disease will be produced by Indian subcontinent in next decade [1]. There is Significant differences in the prevalence of coronary artery disease exist with respect to gender, age and ethnicity. Coronary artery disease is a major cause of health burden in developing countries like India [2]. Indian origin peoples have high risk of coronary artery disease and acute coronary disease is on rise in this society and leading cause of death [3, 4]. Coronary artery disease is a manifestation of many irregularities in the human body like atherosclerotic process, diabetes mellitus, dyslipedemia, hypertention, obesity, sedentary life style, many autoimmune diseases and connective tissue disorders etc., and younger population is not prevented from it. As the addiction of Alcohol, Tobacco use in

many forms and many Recreational drugs (Eg. Heroin, cocaine) is going high in our Indian society our young population is at very high risk of CAD and myocardial infarction. So we decide to do research in this field and tried to understand the clinical profile of myocardial infarction in young and outcome of this entity

Aims And Objective-1 To study the symptoms, ECG and 2D Echocardiography finding in young patients of acute Myocardial Infarction (age < 40 years), 2-To study the risk factors in these patients.3-To study the complications during hospitalization and outcome of the patients.

Materials and methods-It is a prospective study conducted in patients admitted in ICU, in Department of Medicine, J.A.H., G.R.M.C., Gwalior for a period from June 2013 to October 2014 with Acute Myocardial Infarction (age <40years) and who were later confirmed of either STEMI or NSTEMI. These patients are compared with the patients of age group between 41to 60 years admitted with the same diagnosis
Each patient was subjected through standard proforma having information regarding, clinical presentation at the time of hospitalization, previous medical and surgical history, personal history including cardiovascular risk factors, complications and outcome of patients during hospital stay. Diagnosis of acute myocardial infarction was based on clinical symptoms, electrocardiogram findings, Troponin T/Troponin I.

The following parameters are studied:

1. Detailed history of clinical presentation of the cases.
2. Smoking,
3. Past and family history of Ischemic heart disease, diabetes, hypertension.
4. Obesity**:** The following parameters are used to compare- *Body Mass Index:* >25(kg/m^2) is taken as overweight/obese
5. Dyslipidemia**:** According to NCEP-ATP III guidelines, patients are considered to have dyslipidemia when -Total cholesterol > 200 mg%, HDL < 40 mg%, LDL > 100 mg%, Triglycerides > 130 mg%.
6. Diabetes mellitus**:** Known diabetics on treatment or newly detected DM according to ADA guideline 2014: Symptoms of diabetes mellitus with random blood glucose >200 mg%, Fasting plasma glucose > 126 mg%, 2 hr plasma glucose > 200 mg%
7. Hypertension**:** Known hypertensives on treatment or newly detected hypertension according to JNC VII criteria. Patients with SBP ≥140 DBP≥90 are considered as hypertensive

The investigations done to assess the above mentioned study were**:** 1. Complete blood picture, 2. Fasting and post-prandial blood sugar, 3. Fasting lipid profile, 4. Cardiac enzymes, 5. Blood urea, 6. Serum creatinine, 7. Serum electrolytes, 8. E.C.G.,9. Echocardiogram, 10. Chest X-ray,

Statistical Methods

- Chi square test has been used to analyse the data having ordinal variables.
- Significant figures are analysed
- Suggestive significance (P value: 0.05<P)

Statistical software

- The Statistical software namely EPI Info 7.0 and Vassar stats (www.vassarstats.net) for the analysis of the data and Microsoft word and Excel were used to generate graphs, tables. A p value of <0.05 was considered as significant.

Inclusion Criteria 1- All patients having diagnosis of acute myocardial infarction (STEMI/NSTEMI) admitted in ICU. 2. Patients having age <40 years

Exclusion Criteria-Those patients of age < 40 yrs with acute myocardial infarction who refuse to give consent for the study.

Results And Observations-In this prospective observational study we have studied 50 patients of age less than 40 years (Group I) with diagnosis of acute myocardial infarction and compared with patients with same diagnosis of age between 41 to 60 years (Group II)

Table 1: Age distribution

Age (in years)	No. of patients	
	Group I No. (%) (n=50)	Group II No. (%) (n=50)
≤ 30	7 (14%)	0 (0%)
31-35	17(34%)	0(0%)
36-40	26(52%)	0(0%)
41-45	0(0%)	5(10%)
46-50	0(0%)	9(18%)
51-55	0(0%)	18(36%)
56-60	0(0%)	18(36%)
Mean age	36.16± 3.7	54.16± 4.92

In this study there were two group. Group I had patients age ≤ 40 years and group II had patients age between 41 to 60 years. Maximum patients (52%) in group I was between age 36 to 40 years. The mean age in group I was 36.16±3.7 years and in group II was 54.16±4.92 years**.**

Table 2: Sex distribution

Sex	No. of patients	
	Group I No. (%)	Group II No. (%)
Male	47 (94%)	41(82%)
Female	3 (6%)	9(18%)
M :F	15.6:1	4.5:1

χ^2=3.40, p value 0.064 not significant

The above table show that in group I, 47(94%) patients were male and 3(6%) patients were female while in group II, 41(82%) were male and 9(18%) were female.
Among the young (group I) M: F ratio was 4.5:1 where as in group II it was 15.6:1. The study suggest that number of female patients increase in elder population, and lesser number in group I may be due to protective effect of estrogen in premenopausal women

Table 3: Symptoms (Chest Pain)

Chest Pain	No. of patients	
	Group I No. (%)	Group II No. (%)
Present	48 (96%)	39(78%)
Absent	2 (4%)	11(22%)

χ^2=7.162, p value 0.007*, significant

In group I, 96% patients had chest pain while in group II, 78% patients had chest pain.
So group II (elder) patients had more atypical presentation. In group I out of 4% patients, 2% had shoulder pain and 2% had abdominal pain.

Table 4: Other Symptoms

Symptoms	No. of patients		p value
	Group I No. (%)	Group II No. (%)	
Breathlessness	9(18%)	18(36%)	0.042*
Sweating	11(22%)	07(14%)	0.29
Abdominal pain	01(2%)	01(2%)	1
Shoulder pain	01(2%)	0(0%)	0.39
Giddiness	10(20%)	12(24%)	0.62
Nausea and vomiting	03(6%)	02(4%)	0.64
Syncope	01(2%)	02(4%)	0.55
Palpitation	01(2%)	0(0%)	0.31

In other symptoms, group II predominantly presented with breathlessness. In group II, 36% patients had breathlessness while in group I, 18% patients had chest breathlessness ($\chi2$=4.11, p value 0.042*, it is statistically significant). In Group I, 22% patients had sweating, 20% had giddiness, 6% had nausea and vomiting while in group II, 24% patients had giddiness and 14% had sweating.

Table 5: Symptoms Duration in Hrs at Time of Admission

Duration in hrs	No. of patients		p value
	Group I No. (%)	Group II No. (%)	
< 3	7(14%)	1(2%)	0.026*
3-12	13(26%)	9(18%)	0.33
13-24	10(20%)	7(14%)	0.42
25-48	5(10%)	15(30%)	0.12
> 48	15(30%)	18(36%)	0.52

Above table suggest that 40% patients in group I presented within 12 hours while in group II only 20% patients presented within this time period ($\chi2$=7.52, p value 0.002*, and it is statistically significant)

Table 6: Type of myocardial infarction

Type of MI	No. of patients	
	Group I No. (%)	Group II No. (%)
NSTEMI	3(6%)	10(20%)
STEMI	47(94%)	40(80%)

In group I, 94% patients had STEMI and 6% patients had NSTEMI while in group II, 80% had STEMI and 20% had NSTEMI ($\chi2$=4.33, p value 0.037* and this value is statistically significant)

Table 7: Type of STEMI

Type of STEMI	No. of patients	
	Group I No. (%)n=47	Group II No. (%)n=40
ASMI	11(23.5%)	5(12.5%)
AWMI	20(42.5%)	19(47.5%)
ALMI	2(4.5%)	0(0%)
Ext. AWMI	6(12.5%)	5(12.5%)
IWMI	8(17%)	9(22.5%)
IWMI+RVMI	0(0%)	2(5%)

When STEMI compared in both group 83% patients had anterior MI and and 17% patients had inferior MI in group I, while in group II, 72.5% had anterior MI and 27% had inferior MI(p value >0.05 and not statistically significant)

Table 8: Risk factors

Risk factor	No. of patients		p value
	Group I No. (%)	Group II No. (%)	
HTN	9(18%)	21(42%)	0.0088*
DM	4(8%)	6(12%)	0.21
Current smoking	34(68%)	10(20%)	0.000008*
Overweight	25(50%)	11(22%)	0.0035*
Dyslipidemia	33(66%)	16(32%)	0.0006*
Family h/o CAD	8(16%)	5(10%)	0.37
Previous h/o CAD	1(2%)	3(6%)	0.37
No. conventional risk factor	3(6%)	5(10%)	0.46

In the above table the risk factor significantly present in group I is current smoking (in 68% patients compare to 20% in group II, $\chi2$=19.86, p value 0.000008*, statistically significant), dyslipidemia (in 66% patients compare to 32% in group II, $\chi2$=11.56, p value 0.00067*, it is statistically significant), overweight (in 50% patients compare to 22% in group II, $\chi2$=8.5, p value 0.0035, value is statistically significant). In group II hypertension present in 42% patients as compared to 18% patients in group I ($\chi2$=6.85,p value 0.0085*, statistically significant data), Other risk factors was DM (8% in group I, 12% in group II), family h/o CAD (16% in group I, 10% in group II patients), previous h/o CAD (2% in group I, 6% in group II) and 6% patients in group I and 10% in group II had no conventional risk factor.

Table 9: ECG at admission

Character	No. of patients	
	Group I No. (%)	Group II No. (%)
ST elevation	47(94%)	40(80%)
ST depression	3(6%)	10(20%)
Sinus rhythm	49(98%)	49(98%)
AF	1(2%)	0(0%)
Wide complex tachycardia	0(0%)	1(2%)
LBBB	1(2%)	2(4%)
RBBB	0(0%)	0(0%)
1° AV block	0(0%)	1(2%)

In our study above table show that 98% patients in both group were in sinus rhythm.
In group I, 2% patients were in AF at admission and 2% had LBBB. In group II, 2% had wide complex tachycardia, 4% had LBBB at admission and 2% had 1° AV block.

Table 10: LV function

LV function	No. of patients	
	Group 1 No. (%)	Group 2 No. (%)
Normal	29(58%)	16(32%)
Mild dysfunction	14(28%)	15(30%)
Moderate dysfunction	3(6%)	8(16%)
Severe dysfunction	4(8%)	7(14%)
Echo not done	0(0%)	4(8%)

In group I, 58% patients had normal LV function while in group II, 32% patients had normal LV function ($\chi2$=5.186, p value 0.022*, and it is significant statistically. In group I, 15 patients had moderate to severe LV dysfunction while in group II, 15 patients had moderate to severe LV dysfunction ($\chi2$=4.69, p value 0.030* this value is statistically significant

Table 11: Electrical complication during hospitalization

Electric complication	No. of patients	
	Group I No. (%)	Group II No. (%)
Arrhythmia Present Absent	10(20%) 40(80%)	17(34%) 33(66%)
APC	2(4%)	2(4%)
AV block 1º AV block 2º AV block CHB	2(4%) 0(0%) 0(0%)	2(4%) 0(0%) 2(4%)
VPCS	2(4%)	2(4%)
VT	1(2%)	3(6%)
AIVR	1(2%)	2(4%)
RBBB+LAHB	0(0%)	3(6%)
LBBB	3(6%)	3(6%)

In group I, 20% had arrhythmia as compared to 34% patients in group II, (p value <.05, statistically not significant)

Table 12: Complications

Complications	No. of patients	
	Group I No. (%)	Group II No. (%)
Arrhythmia	10(20%)	17(34%)
CCF	2(4%)	4(8%)
Cardiogenic shock	5(10%)	7(14%)
Acute Pericarditis	1(2%)	1(2%)
Mild MR	2(4%)	2(4%)
Mild TR	1(2%)	2(4%)

In group I, 18% patients had mechanical complication while in group II, 28% had mechanical complication.

Table 13: Killip class at admission

Killip class	No. of patients			
	Group I No. (%) n=50		Group II No. (%) n=50	
	STEMI n=47	NSTEMI n=3	STEMI n=40	NSTEMI n=10
I	26(52%)	1(2%)	16(32%)	6(12%)
II	11(22%)	1(2%)	8(16%)	2(4%)
III	6(12%)	0(0%)	9(18%)	2(4%)
IV	4(8%)	1(2%)	7(14%)	0(0%)

In Group I, 78% patients were in killip class I and class II while in group II, 64% patients were in killip class I and class II

Table 14: Killip class at admission and mortality in patients

Killip class	No. of patients			
	Group I No. (%)		Group II No. (%)	
	Patients n=50	Mortality n=3	Patients n=50	Mortality n=10
I	27(54%)	0(0%)	16(32%)	0(0%)
II	12(24%)	0(0%)	8(16%)	0(0%)
III	6(12%)	0(0%)	9(18%)	0(0%)
IV	5(10%)	1(2%)	7(14%)	4(8%)

Overall mortality was 2% in group I, and 10% in group II, and all mortality occure in killip class IV. Mortality occur in one out of five patients in group I, and four out of five patient in group II presented in killip class IV.

Table 15: Thrombolysis and mortality

Thrombolysis	No. of patients			
	Group I No. (%) n=47		Group II No. (%) n=40	
	STEMI	Mortality	STEMI	Mortality
Thrombolysed	18(38%)	0(0%)	13(32.5%)	2(5%)
Not thrombolysed	29(62%)	1(2%)	27(67.5%)	3(7.5%)

In group I, 94% patients had STEMI out of which 38% patients were thrombolysed, while in group II, 80% had STEMI out of which 32.5% patients were thrombolysed. There were overall mortality is 2% in group I and 10% in group II There was no mortality in thrombolysed young patients and only 2% in non thrombolysed young in comparison to group II in which 5% mortality in thrombolysed patients and 7.5% in non thrombolysed patients, suggest that young MI has better prognosis.

Discussion-In this prospective observational study we have studied the 50 patients of age less than 40 years (Group I) with diagnosis of acute myocardial infarction and compared with patient with same diagnosis of age between 41 to 60 years (Group II) and results also compared with other studies on following data.

Age and sex wise distribution-In our study the mean age in group I and group II was 36.16 ± 3.7 and Bhardwaj *et al.* (2014) [5]. found mean age 35.94 ±4.1 in his study.

Study		Male	Female
A.W. Schoeneberge *et al.* (2011)	Case	85.1%	14.9%
	Control	72.3%	27.7%
Shricharan K.N. *et al.* 2012)		90%	10%
Hasan *et al.* (2013)		90%	10%
prajapati *et.al*(2014)		89%	11%
Present study	Group I	94%	6%
	GroupII	82%	18%

In our study Male preponderance observed in both group I and group II, But the number of female patients increased in group II (elder patients). This difference may be due to protective effect of estrogen in premenopausal women. A.W. Schoeneberger *et al.* (2011) [6]. had found 85.1% Male and 14.9% Female in study group patients aged ≤ 35 years, and 72.3% male and 27.7% Female in study group of patients aged >35 years. Shricharan K.N. *et al.* (2012) [7]. had found 90% male and 10% female in his study. Hasan. *et al.* (2013) [8]. had found 90% male and 10% female in his study. Prajapati et.al (2014) [9]. had found 89% male and 11% female in his study.In the study done by Bhardwaj *et al.* (2014) [5]. only one female patient found out of total 124 patients.

Comparison of symptoms at admission

Study	A.W.Schoeneberger *et al.* (2011) [6]		Shricharan K.N. *et al.* (2012) [7].	Present study	
Symptom	Case	Control		Group I	Group II
Chest pain	91.6%	83.7%	90%	96%	78%
Breathlessness	12.8%	26.8%	20%	18%	36%

In our study chest pain is most common symptom in both the group, but 22% patients in group II and 4% patients in group I had no chest pain, so group II patients had more atypical presentation.

Other common symptoms in group I were sweating (22%), giddiness (20%), and breathlessness (18%), and 4% patients not presented with chest pain had shoulder pain(2%) and abdominal pain(2%).Other common symptoms in group II were breathlessness (36%), giddiness (24%) and sweating (14%). In study of A.W. Schoeneberger *et al.* (2011) [6]. 91.6% had chest pain in age group ≤ 35 years (case) and 83.7% in age >35 years (control). Shricharan K.N. *et al.* (2012) [7]. found 90% patients had chest pain at admission.

Duration of symptoms at admission-In present study 40% patients in group I and 20% in group II admitted within 12 hours of symptoms onset, the late presentation in group II was the reason for less number of thrombolysis in this group (26% compared to 36% in group I).

Comparison of risk factors in various studies-In present study current smoking was found to

Study	A.W. Schoeneberger *et al.* (2011) [6].		Shricharan K.N. *et al.* (2012) [7].	Hasan *et al.* (2013)[8]	Present study	
Risk Factor	Case	Control			Group I	Group II
Current Smoking	77%	37%	70%	72.5%	68%	20%
Hypertension	17.8%	57.7%	10%	52.5%	18%	42%
Diabetes Mellitus	6.3%	20%	50%	20%	8%	12%
Overweight	57.8%	64.2%	10%	62%	50%	22%
Dyslipidemia	44%	57.1%	36.67%	67.5%	66%	32%
Previous CAD	15.6%	39.3%	-	-	2%	6%
Family H/O CAD	55%	34.4%	10%	67%	16%	10%

Be the most common factor associated with myocardial infarction in young present in 68% patients in group I as compared to 20% patients of group II. A.W. Schoeneberger *et al.* (2011) [6]. found in his study that 77% patients in aged ≤ 35 years (case) and 37 % patients in aged >35 years(control) had current smoking. In study of Bhardwaj *et al.* (2014) [5]. 58.8% were current smoker in young patients. Hasan *et al.* (2013) [8]. found 72.5% patients had current smoking and Shricharan K.N.*et al* (2012) [7]. Found 70% had current smoking in their studies. Next common risk factor in young patients was dyslipidemia present in 66% patients in group I and 32% patients in group II.A study done by A.W. Schoeneberger *et al.* (2011) [6]. Found that 44% patients in aged ≤ 35 years and 57.1% aged> 35 years had dyslipidemia. Shricharan K.N. *et al.* (2012) [7]. and Hasan *et al.* (2013) [8]. found in their studies that 36.67% and 67.5% patients had dylipidemia respectively. Other risk factor found to be important was overweight present in 50% patients in group I and 22% patients in group II. A.W. Schoeneberger *et al.* (2011) [6]. Also studied this risk factor and found to be present in 57.8% patients in aged ≤ 35 year and 64.2% patients in aged>35 years. Shricharan K.N. *et al.* (2012) [7]. and Hasan *et al.* (2013) [8]. studied this risk factor and it present in 10% patients and 62% patients respectively. The significant risk factor in elder patients (group II) was hypertension present in 42% patients while in group I only 18% had hypertension. A.W. Schoeneberger *et al.* (2011) [6]. Also describe this risk factor and present in 57.7% patients in aged >35 year and 17.8% patients aged ≤ 35 years. Shricharan K.N. *et al.* (2012) [7]. found 10% patients had hypertension. Bhardwaj et.al (2014) [5]. found that 44.35% patients had hypertension in young. Other risk factor found in our study was DM (8% in group I and 12% in group II), family h/o CAD (16% in group I and 10% in group II), and previous CAD (2% in group I and 6% in group II).No conventional risk factor was found in 6% patients in group I and 10% patients in group II in our study.

Type of myocardial infarction:-In present study the distribution of STEMI and NSTEMI was significantly differ($p<.05$) between young and older patients In our study 94% patients had STEMI and 6% had NSTEMI in group I and 80% patients had STEMI and 20% had NSTEMI in group II. In study by A.W. Schoeneberger *et al.* (2011) [6]. found that STEMI was present in 73.1% patients of aged ≤ 35 years and 58.3% patients aged >35 years. Hasan *et al.* (2013) [8]. found 66% had STEMI and 34% patients had NSTEMI in younger population. In study of Bhardwaj et.al. (2014) [5]. 95.16% had STEMI and 5.84% had NSTEMI. Prajapati et.al. (2014) [9]. found in his study that 90% patients had STEMI and 10% had NSTEMI. In our study the patients who had STEMI, out of which 83 %patients had anterior MI and 17% had inferior MI in group I; while in group II, 72.5% had anterior MI and 27.5 % had inferior MI The proportion of anterior MI was also significantly high in young patients in other study. In study by Prajapati et.al (2014) [9]. 61% had anterior MI and 29 % had inferior MI. Hasan *et al.* (2013) [8]. had found that 60%patients had anterior MI and 6% had inferior MI. Bhardwaj *et al.* (2014) [5]. found that anterior MI present in 75% patients and inferior MI present in 25% patients.

Complication: In present study 30% in group I develop complication as compared to 46% patient in group II. In group I 22% patients develop arrhythmias as compared to 38% patients in group II. In group I 18% patients had mechanical complication out of which 4%patient had congestive cardiac failure, 10% had cardiogenic shock, 2% had pericarditis, 4% had mild MR, 2%had mild TR and in group II, 28%patients had mechanical complication in which 8% had congestive cardiac failure and 14% had cardiogenic shock, 4%had mild MR, 4% had mild TR**.** In study of A.W. Schoeneberger *et al.* (2011) [6]. In which 97.9% patient was in killip class I and class II in patients aged ≤35 years and 92.9% in patients aged >35 years.

In our study Echocardiograpy shows that 58% patients of group I had normal LV function as compared to 34 % patients in group II. In group II, 34% patients had moderate to severe LV dysfunction while in group I only 14% patients.

In present study, in group I, 78% patients were in killip class I and class II while in group I, 64% patients were in these class**.** In group I, 94% patients had STEMI in out of which 38% patients were thrombolysed as compared to group II in which 80% patients had STEMI and out of which 32.5% patients were thrombolysed.

Mortality -In our study, group I had 2% mortality and group II had 10% mortality. A study by A.W. Schoeneberger *et al.* (2011) [6]. Shows that mortality was 2.1% in patients age≤35 years as compared to 8% in aged>35 years. All the mortality occur in patients who were in killip class IV at the admission. In both the group Mortality was higher in patients in who have STEMI, and even more in patients who were not thrombolysed in both the group mortality in patients of NSTEMI were nil.

Prognosis was good in patients of group I, even better in patients who presented earlier and thrombolysed. Also in group II, patients had better prognosis in thrombolysed patients compared to nonthrombolyse patients

Conclusion

We have studied fifty patients of age ≤ 40 years (group I - young) with the diagnosis of Acute Myocardial Infarction and compared with the patients of age 41-60 years (group II-elder).Myocardial infarction in young patients was more common in male when compared to female. Most common symptoms were chest pain followed by breathlessness and giddiness. Most common clinical presentation was in form of STEMI and Anterior MI was the commonest. In our study, current smoking, dyslipidemia and overweight found to be significant risk factor for Myocardial Infarction in young. The screening of people for these risk factors and find out the people at high risk for early development of CAD, and more aggressive control of these factors can control the premature CAD. By increasing the awareness in the people to stop the smoking, took proper diet (low fat), and maintaining the ideal body weight and physical activity can be very helpful. Majority of patients had normal LV function or mild LV dysfunction, if timely intervention and proper management done, Myocardial Infarction in young has good prognosis.

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