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CLINICAL OUTCOME, RISK FACTORS AND ANGIOGRAPHIC EVALUATION OF INFERIOR MYOCARDIAL INFARCTION WITH OR WITHOUT RIGHT VENTRICULAR INVOLVEMENT

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Introduction: Assessment and quantification of right ventricular function is difficult and challenging. Nevertheless, an understanding of right ventricular function may be useful in the management of patients with an inferior acute MI that involves the right ventricle. The extent of involvement of the right ventricle varies in different series and angiographic analysis of the right ventricle can shed light on the severity of the disease. **Objective:** To assess the clinical outcome, risk factors and angiographic evaluation of inferior myocardial infarction with or without right ventricular involvement. **Methods:** This was a prospective observational comparative study carried out in National Institute of Cardiovascular diseases (NICVD) Dhaka, during the period from October 2010 to June 2011. One hundred (100) patients both group included. Among the patients we selected 50 patients with RV myocardial involvement (Group I= ST elevation >1mm in V4R) and 50 patients without RV myocardial involvement (Group II= ST isoelectric or depression in V4R). Patients admitted in CCU with AMI (inferior) fulfilling the inclusion and exclusion criteria were included in the study. According to ECG finding in right precordial lead V4R, patients were categorized into two groups. Echocardiography was done in all the patients within 24 hours of onset of chest pain. After 7 to 10 days all patients had undergone coronary angiography and then evaluation done. All data were recorded in preformed data sheet and analysis was done by computer based on SPSS program. P-value less than (< 0.05) considered as statistically significant. **Results:** One hundreds (100) patients were both group included. The mean age of Group I and Group II patients were (54.5±11.2 vs 54.5±11.2 years. P=0.08). The highest

number of patients was in the age group (50-59) years. Majority of patients were male 94% vs. 92% respectively. On admission, chest pain was the most common presenting compliant both Groups (100% vs. 98%), breathlessness (60% vs. 24%), nausea (54% vs. 58%), vomiting (90% vs. 86%), sweating (90% vs. 98%), syncope (60% vs. 20%) and dizziness (70 vs. 28%) between Group I and Group II respectively. CAG report of coronary artery showed that 68% of the patients had lesion in proximal of the RCA in Group I. In middle of the RCA had 6% vs. 44% of patients in between Group I and Group II. The difference was statistically significant ($p<0.001$). There were no patients in distal part of RCA in Group I and had 36% of patients in Group II. LCX had 34% vs.26% in Group I and Group II respectively and ($p=0.38$). Among the studied patients, the most important frequent complications were hypotension followed by sinus bradycardia, cardiogenic shock, arrhythmias, acute LVF and cardiac arrest and death. Logistic regression result indicates that, the patients of inferior MI with RV involvement had approximately 0.429 times less chance of uneventful recovery than those without RV involvement which is statistically significant ($p<0.05$, odds ratio 0.42, 95% confidence interval 0.18 to 0.97). The patient of RVI had approximately 4.6 times more chance of developing cardiac arrest than those without RVI which was not statistically significant ($p = 0.063$, OR 4.6, 95% CI 0.09 to 22.7)). Inferior MI with RVI had approximately 6.7 times more chance of death than those without RVI which was not statistically significant ($p = 0.084$, OR 6.7, 95% CI 0.77 to 57.6). **Conclusion:** To conclude, by taking a little extra effort and doing right precordial leads while taking conventional leads, followed by angiographic of right ventricle would be reduced hospital morbidity and mortality by diagnosing RVI early. Right ventricular infarction makes the hemodynamics of the patient unstable. These patients had significantly worse clinical outcomes, and few underwent urgent angiography.

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INTRODUCTION

CHD is the leading cause of death globally. Incidence of which is increasing day by day in spite of improve management. Understanding of the natural history and prognosis of ACS, the patient with AMI had a substantially worse in –hospital and follow up clinical course compared with those with inferior MI. Cardiovascular diseases(CVD) were the leading cause of death worldwide 16970,000 people died in 1999 due to cardiovascular diseases and it accounts for 30.3% of total 56 million death of the world coronary heart disease(CHD) –the most common cardiovascular disease, is the major cause of death in middle –aged and older people in most of the developed and many of the developing countries [1]. In the United States as well as in many other countries, cardiovascular diseases remain by far the number one cause of death for both men and women of all ethnic backgrounds and cause the greatest disability [2]. The South Asian countries of India, Pakistan, Bangladesh, Srilanka, and Nepal contribute the highest proportion of the burden of cardiovascular

diseases (CVDs) compared to any other region globally [3, 4, 5]. Estimates from the Global burden of Disease Study suggests that by the year 2020 this part of the world were more individuals with atherosclerotic cardiovascular disease than any other region [5]. CHD was the major health and number one killer disease in developed countries like USA, increased prevalence and excess mortality in CHD was documented by several studies. The prevalence of CHD was estimated at 3.3/1000 in 1976 and 17.2/1000 in 1986 indicating 5 folds' increase of the disease in 10 years. Moreover, CHD in our country known to have a significantly younger onset and more aggressive presentation. AMI was a major component of acute coronary syndrome which usually due to anterior or inferior wall involvement. The presentation of acute myocardial infarction was different depending on the coronary artery involved. Right ventricular infarctions (RVI) accompany extensive inferior-posterior infarctions. Inferior wall MI results from either right coronary artery (RCA) or left circumflex coronary artery (LCX) occlusion. RCA predominantly supply the part of conducting system, right atrium, right ventricle, part of left ventricle and the posteromedial papillary muscle. In most cases RVI was caused by a proximal occlusion of right coronary artery [6]. The patient with anterior myocardial infarction had a substantially worse in hospital and follow up clinical course compared with those with inferior MI. Clinical detection of RV infarction was done by searching raised jugular pressure, clear lung field, low cardiac output which resembles many clinical situations like chronic obstructive pulmonary disease, pulmonary stenosis, pulmonary hypertension, acute pulmonary embolism [6]. The occurrence of an inferior left ventricular infarction involving the right ventricle ranges from 14% to 84%, but is typically thought to be about 50% [7, 8]. The incidence of right ventricular infarction in acute inferior MI setting is about 30% [8]. There was a wide range of hemodynamic disturbance associated with RVI starting with asymptomatic course to severe hypotension, shock, fatal arrhythmias with sudden death. The key element of treatment is to restore myocardial perfusion as soon as possible by thrombolysis, CAG followed by primary PCI and improve prognosis. Considering these much effort has put into correlation ECG changes in V4R in acute inferior wall MI with RVI without RVI with coronary angiogram. In this regard there was no study in our country. But it was very much feasible in our setting now we can do early revascularization by primary PCI.

MATERIALS AND METHODS

This was a prospective observational comparative study carried out in National Institute of Cardiovascular diseases (NICVD) Dhaka, during the period from October 2010 to June 2011. One hundred (100) patients both group included. Among the patients we selected 50 patients with RV myocardial involvement (Group I= ST elevation >1mm in V4R) and 50 patients without RV myocardial involvement (Group II= ST isoelectric or depression in V4R). Patients admitted in CCU with AMI (inferior) fulfilling the inclusion and exclusion criteria were included in the study. According to ECG finding in right precordial lead V4R, patients were categorized into two groups.

Inclusion Criteria:

- Patients who presented with acute inferior myocardial infarction within 24 hours considered as cases.
- After 7 to 10 days all patients had undergone coronary angiography and then evaluation done.

Exclusion Criteria:

- Patients with previous myocardial infarction.
- Patients with concomitant acute anterior myocardial infarction.
- Patients associated with valvular heart diseases.

- Patients on pacemaker.
- Bundle branch block.
- Cardiomyopathies.

Patients admitted in CCU with AMI (inferior) fulfilling the inclusion and exclusion criteria was included in the study. Informed written consent was taken from each subject before enrolment. Evaluation of the patients by taking meticulous history & detailed clinical examination and data was recorded in a pre-designed form. ECG, with right side ECG on admission and within 24hrs of the onset of symptoms was analysed. Right sided ECG that had ST segment elevation >1 mm in V4R or V3R was chosen for RV infarction. Admission ECG along with right sided ECG was evaluated in all patients with inferior MI. If patients were received thrombolytic, then post thrombolytic ECG was evaluated one and half hour after thrombolysis. Patients had divided into two groups based on presence or absence of ST segment elevation in lead V4R or V3R.

Group -I: patients with ST segment elevation in V4R or V3R (with RV infarction).
Group-II: patients with isoelectric ST segment in V4R or V3R (without RV infarction)

Base -line laboratory investigations: Random blood sugar, blood urea, serum creatinine, lipid profile, s. electrolytes, CK-MB, Troponin – I, echocardiogram was done.

Coronary angiography (CAG): All patients with in 7-10 days and finding were analysis by eye estimation in standard view.

Statistical analysis: All data were recorded systematically in preformed data collection form and data were expressed as mean and standard deviation and qualitative data as frequency distribution and percentage. Clinical outcome was analyzed by logistic regression model. Statistical analysis was performed by using SPSS version 16. 95% confidence limit was taken. Probability value <0.05 was considered as level of significance.

RESULTS

Table-1: Age distribution of the study population (n=100)

Age group (year)	Group 1 (n=50)		Group II (n=50)		P value
	N	%	N	%	
≤ 40	8	16.0	9	18.0	*0.79*
41- 50	13	26.0	20	40.0	*0.13*
51- 60	17	34.0	13	26.0	*038*
> 60	12	24.0	8	16.0	*0.31*
Mean± SD	54.5±11.2		50.2±13.4		*0.08*

Group I: With RVI, Group II: Without RVI.
P value reached from unpaired t-test.

Total 100 subjects were included in this study. Table-1 showed that about ≤ 40 years old patients were 16% in Group I and 18% in Group II. Group I had 26% and group II had 40% of patients between (41-50) years. Next (51-60) years were 34% and 26% in Group I and Group II respectively. Patients of > 60 years were 24% and 16% in Group I and Group II respectively. The age distribution was almost identical between patients with and without right ventricular involvement (54.5±11.2 vs50.2±13.4 years. P=0.08). Histogram showed that about ≤ 40 years old patients were 16% in Group I and 18% in Group II. . Group I had 26% and group II had 40% of patients between (41-50) years. Next (51-60) years were 34% and 26% in Group I and Group II respectively. Patients of >60 years were 24% and 16% in Group I and Group II respectively.

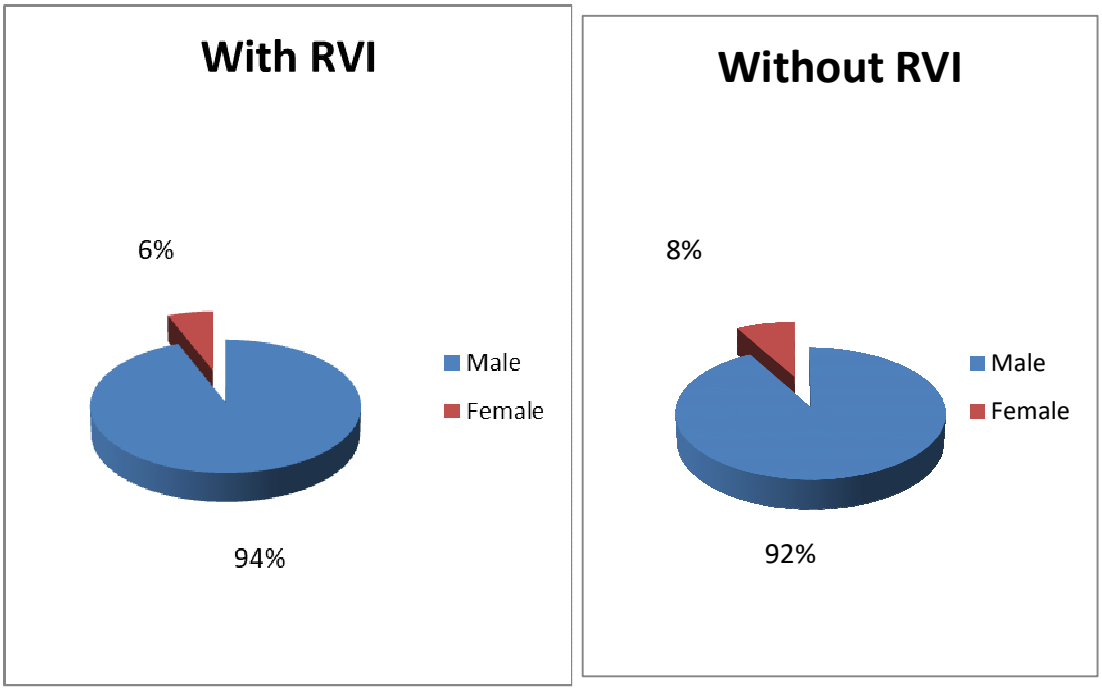

Fig-1: Pie diagram showed sex distribution of study populations between two groups.

Majority of patients were male in Group I and Group II (94% and 92% respectively). Statistically not significant mean sex difference was found between patients of study groups (p>0.05).

Table-2: Distribution of risk factors between two groups (n=100)

Risk factors	**Group 1 (n=50)**		**Group II (n=50)**		**P value**
	Number	**%**	**Number**	**%**	
Smoking	44	88.0	34	68.0	0.01
Diabetes Mellitus	24	48.0	10	20.0	0.003
Hypertension	16	32.0	23	46.0	0.15
Dyslipidemia	7	14.0	8	16.0	0.77
Family history of CAD	25	50.0	15	30.0	0.04

Among the Group I smoking (88%) was the most common risk factor followed by family history of CAD (50%), diabetes mellitus (48%), hypertension (32%) and dyslipidemia (14%). On the other hand, among Group II patient highest percentage had smoking (68%), followed by hypertension (46%), family history of CAD (30%), diabetes mellitus (20%) and dyslipidemia (16%). There were statistically significant risk factors difference between smoking, diabetes mellitus and family history of CAD in between study groups (p<0.05) (Table-2).

Table-3: Distribution of presenting complaints between groups (n=100)

Symptoms	**Group 1 (n=50)**		**Group II (n=50)**		**P value**
	Number	**%**	**Number**	**%**	
Chest pain	50	100.0	49	98.0	0.05
Breathlessness	30	60.0	12	24.0	0.001
Nausea	27	54.0	29	58.0	0.68
Vomiting	45	90.0	43	86.0	0.53
Sweating	48	96.0	49	98.0	0.53
Syncope	30	60.0	10	20.0	0.001
Dizziness	35	70.0	14	28.0	0.001

Among the study patient chest pain was the most common presenting complaints both the Groups (100% vs 98%). Followed by breathlessness (60% vs 24%), nausea (54% vs. 58%), vomiting (90% vs 86%), sweating (90% vs 98%), syncope (60% vs20%) dizziness (70 vs 28%) between Group I and Group II respectively. There was statistically significant difference were in breathlessness, syncope and dizziness between two groups (p>0.001) (Table-3).

Table-4: Base- line clinical parameters of the study population (n=100)

Parameters	**Group 1 (n=50)**		**Group II (n=50)**		**p value**
	Mean ± SD		**Mean ± SD**		
Pulse	68.0±14.7		74.8±14.6		0.04
Systolic BP	94.6±30.4		115.4±17.8		0.001
Diastolic BP	66.7±14.8		73.1±13.5		0.05
	No	**%**	**No**	**%**	
JVP Raised	37	74.0	13	26	0.001
Lungs bases clear	35	70.0	13	26	0.001

Table-4 showed that mean pulse rate was 68.0±14.7 vs. 74.8±14.6 /min between Group I and Group II respectively Mean difference of systolic blood pressure 94.6±30.4mmof Hg vs 115.4±17.8mm of Hg were found between Group I and Group II. Mean difference of diastolic blood pressure was found 66.7±14.8 vs 73.1±13.5 mm of Hg between groups. Raised JVP had 74% in Group I and 26% in Group II. Lungs bases were clear 70% cases in Group I and 26 % in Group II respectively. All these differences were statistically significant (p<0.05).

Table-5: Distribution of the coronary artery involvement (n= 100)

Vessels	**Group 1 (n=50)**		**Group II (n=50)**		**P value**
	Number	**%**	**Number**	**%**	
SVD	23	46.0	24	48.0	0.68
DVD	21	42.0	25	50.0	0.54

Above tabl-5 shows that 46% of the patients had single vessel disease (SVD) in Group I and 48% in Group II. Double vessel disease (DVD) had 42% vs. 50% of patients between groups respectively. The differences were statistically not significant in both groups

(p.>0.05). CAG could not be done 6(six) patients in group I and 1(one) patient in group II because those patients had died before CAG.

Table-6: Thrombolytic complications (n=100)

Thrombolytic complications	**Group 1 (n=50)**		**Group II (n=50)**		**P value**
	Number	**%**	**Number**	**%**	
Hypotension	40	80.0	23	46.0	0.001
Bleeding	3	6.0	1	2.0	0.30

Table-6 showed that 80% vs. 46% patients of hypotension between Group I and Group II respectively. Statistically significant difference was present (<0.05). Bleeding was 6% and 2% between groups respectively (p=0.30).

Table-7: Distribution of site involvement of coronary artery by Coronary angiography (n= 100)

Site	**Group 1 (n=50)**		**Group II (n=50)**		**P value**
	Number	**%**	**Number**	**%**	
Proximal RCA	34	68.0	0	0.0	
Mid RCA	4	8.0	22	44.0	0.001
Distal RCA	0	0.0	17	34.0	
LCX	17	34.0	13	26.0	0.38

Table-7 showed that 68% of the patients had lesion in proximal of the RCA in Group I but no patient in Group II. In middle of the RCA had 6% vs. 44% of patients in between Group I and Group II. The difference was statistically significant (p<0.001). There were no patients in distal part of RCA in Group I and had 36% of patients in Group II. LCX had 34% vs.26% in Group I and Group II respectively and (p=0.38).

Table-8: Distribution of degree of stenosis by Coronary angiography (n= 100)

Site of lesion	Group 1 (n=50)					Group II (n=50)				
	Degree of stenosis									
	<50%	51-70%	71-90%	>90%	Total occl.	<50%	51-70%	71-90%	>90%	Total Occl.
RCA	2 (4%)	1 (2%)	16 (32%)	16 (32%)	3 (6%)	0	5 (10%)	28 (56%)	1 (2%)	0
LCX	5 (10%)	1 (2%)	7 (14%)	3 (6%)	0	0	6 (12%)	7 (14%)	0	0
LAD	4 (8%)	8 (16%)	0	0	0	6 (12%)	17. (34%)	2 (4%)	0	0
LM CA	0	0	0	1 (2%)	0	3 (6%)	0	0	0	0

Table-8 showed degree of stenosis were <50%, 50-70%, 70-90%, >90% and total occlusion had 4%, 2%, 32, 32% and 6% in Group I and 0%,10%, 56%, 2% and 0% Group II respectively. LCX stenosis had 10%, 2%, 14%, 6% and 0 in Group I and 0, 12%, 14%, 0 and in 0 in Group II respectively. LAD stenosis had 8%, 16%, (<50% and 50-70% respectively) in Group I and 12%, 34% and 4% (<50%, 50-70% and 71-90% respectively) in Group II. LMCA had 2% (>90%) and 6% (<50%) in group I and Group II respectively.

Table-9: Relation of in-hospital outcomes between two groups (n=100)

Outcome	**β**	**Wald**	**OR**	**95% C.I. for OR**		**p value**
				Lower	Upper	
Uneventful recovery	-0.847	04.097	0.429	00.189	00.974	0.043
Hypotension	1.547	11.639	4.696	01.931	11.418	0.001
Cardiogenic shock	1.670	10.268	5.310	01.913	14.745	0.001
Acute LVF	0.784	01.462	2.190	00.615	07.808	0.227
Conductive disturbance	1.153	07.637	3.167	01.398	07.174	0.006
Cardiac arrest	1.520	3.449	4.571	00.919	22.730	0.063
Death	1.899	2.982	6.682	00.774	57.695	0.084

β: Standardized coefficient, OR- Odd ratio, C.I –Confidence interval.

Table-9 showed relation of in-hospital outcomes between two groups by logistic regression analysis .The patients of inferior MI with RV involvement had approximately 0.429 times less chance of uneventful recovery than those without RV involvement which is statistically significant ($p<0.05$, odds ratio 0.42, 95% confidence interval 0.18 to 0.97), approximately 4.7 times more chance of developing hypotension than those without RVI which was statistically significant ($p<0.05$ OR 4.7, 95 % CI 1.9 to 11.4), approximately 5.3 times more chance of developing cardiogenic shock than those without RVI which was statistically significant ($p<0.05$ OR 5.3, 95% CI 1.9 to 14.7), approximately 2.2 times more chance of developing acute LVF than those without RVI which was not statistically significant ($p = 0.227$, OR 2.2, 95% CI 0.61 to 7.80), approximately 3.2 times more chance of developing conductive disturbance (Complete heart block, 1st degree heart block, J brady, Sinus bradycardia, Sinus trachycardia) than those without RVI which was statistically significant ($p<0.05$, OR 3.2, 95% CI 1.3 to 7.17), approximately 4.6 times more chance of developing cardiac arrest than those without RVI which was not statistically significant ($p=0.063$, OR 4.6, 95% 0.09 to 22.7) and approximately 6.7 times more chance of death than those without RVI which was not statistically significant ($p = 0.084$, OR 6.7, 95% CI 0.77 to 57).

DISCUSSION

Identification of right ventricular infarction in acute inferior myocardial infarction in this study was based on clinical findings and electrocardiographic and echocardiographic changes. Clinically patients had the features of hypotension, raised JVP and clear lung bases. Right sided chest leads were used for diagnosis. It is now established that ST elevation of ≥1 mm in lead V4R. Assessment and quantification of right ventricular function is difficult and challenging [9]. Nevertheless, an understanding of right ventricular function may be useful in the management of patients with an inferior acute MI that involves the right ventricle [10]. The analysis of patterns of ST-T segment in right precordial lead V4R may influence decisions regarding treatment strategy. The early and accurate identification of the infarct related artery on the ECG can help to predict the amount of myocardium at

risk and guide decisions regarding the urgency of revascularization. The mean age of Group I and Group II patients were (54.5±11.2 vs 54.5±11.2 years. P=0.08). The highest number of patients was in the age group (50-59) years. Shawkat et al. [11] found that mean age of their CAD patients to be 53.6±10.3 years, Falk E et al [12] found 50.9±9.2 years; Jamaluddin M et al. [13] found 51.9±8.9.4 in recent years. But report from back Baigrie, R.S et al [14] found the mean age of their CAD patient to be 53.33±13.21 years, Safiuddin et al [15] 48.98±8.37 years of CAD patients in Bangladesh, which support the findings of the present study. Majority of patients of Group I and Group II (94% and 92% respectively) were male. Statistically not significant mean sex difference was found between patients of study group (p>0.05). The result was consistent with the result of where the percentage of male patients were 89, 90 and 92 respectively [15,16,17]. The numbers of female patients were less in almost all study [18]. Among the Group I smoking (88%) was the most common risk factor followed by family history of CAD (50%), diabetes mellitus (48%), hypertension (32%) and dyslipidemia (14%). On the other hand, among Group II patient highest percentage had smoking (68%), followed by hypertension (46%), family history of CAD (30%), diabetes mellitus (20%) and dyslipidemia (16%). There were statistically significant risk factors difference between smoking, diabetes mellitus and family history of CAD in between study groups (p<0.05). The data were almost similar to the study done in Bangladesh [19]. In that study the highest percentage of patients had history of smoking (49%) followed by hypertension (43.6%), diabetes mellitus (36.4%), dyslipidaemia (16.4) and family history of CAD (12.7%). Studies done by Rahman et al. [16] and Haque [18] also reported similar data. Among the study patient chest pain was the most common presenting compliant both the Groups (100% vs 98%). Followed by breathlessness (60% vs 24%), nausea (54% vs. 58%), vomiting (90% vs 86%), sweating (90% vs 98%), syncope (60% vs20%) dizziness (70% vs 28%) between Group I and Group II respectively. There was statistically significant difference were in breathlessness, syncope and dizziness between two groups (p>0.001). The data were similar to the study done [19].The mean duration of symptoms was 6.9±3.6 hours in Group I and 8.9±4.9 hours in Group II. The difference was statistically significant in two groups (p<0.05). Duration of symptoms was longer in Group I (3-24) hours than Group II (1-18) hours. Regarding haemodynamic status, the mean pulse rate was 68.0±14.7 vs. 74.8±14.6 per minute, systolic blood pressure 94.6±30.4 mm of Hg vs 115.4±17.8 mm of Hg and diastolic blood pressure was found 66.7±14.8 vs 73.1±13.5 mm of Hg between groups. Raised JVP had 74% in Group I and 26% in Group II. Lungs bases were clear 70% cases in Group I and 26 % in Group II respectively. All these differences were statistically significant (p<0.05). Our results showed that 68% of the patients had lesion in proximal of the RCA in Group I. In middle of the RCA had 6% vs. 44% of patients in between Group I and Group II. The difference was statistically significant (p<0.001). There were no patients in distal part of RCA in Group I and had 36% of patients in Group II. LCX had 34% vs.26% in Group I and Group II respectively and (p=0.38). The occurrence of an inferior left ventricular infraction involving the right ventricle ranges from 14% to 84% but is typically thought to be about 50% [20]. The incidence of right ventricular infraction in acute inferior MI setting is about 30% [21]. In most cases RVI is caused by a proximal occlusion of right coronary artery [8, 22]. Among the studied patients, the most important frequent complications were hypotension followed by sinus bradycardia, cardiogenic shock, arrhythmias, acute LVF and cardiac arrest and death. The study done by S. Khan et al. [19]

stated that conduction disturbance in acute inferior MI patients were 49.3% and it was more come in RVI (28.7%) than inferior MI without RVI (17.6%). Dysarrthymia such as bradycardia, complete heart block is common in RVI [20]. These results coincide with the present study. These results coincide with Mehta et al [23], a meta-analysis of six studies (n=1,198) confirmed that RV myocardial involvement was associated with an increased risk of death (odds ratio [OR] 3.2, 95% confidence interval [CI] 2.4 to 4.1) shock (OR 3.2, 95% CI 2.4 to 3.5), ventricular trachycardia or fibrillation (OR 2.7, 95% CI 2.1 to 3.5) and atrioventricular block (OR 3.4, 95% CI 2.7 to 4.2). Comparison of echocardiongraphy of the left ventricular mean ejection fraction (LVEF) was 50.6±6.6 to 53.0±8.5 in between Groups respectively (p=0.12). Left ventricular internal dimension in diastole (LVIDd) was 46.7±5.5 to 47.3±6.1 respectively between group (p=0.65). Left ventricular internal dimension in systole (LVIDs) was 34.7±4.9 to 35.2±7.8 respectively between group (p=0.70). Our result showed by logistic regression result indicates that, the patients of inferior MI with RV involvement had approximately 0.429 times less chance of uneventful recovery than those without RV involvement which is statistically significant (p<0.05, odds ratio 0.42, 95% confidence interval 0.18 to 0.97). The patients of inferior MI with RVI had approximately 4.7 times more chance of developing hypotension than those without RVI which was statistically significant (p<0.05 (OR 4.7, 95 % CI 1.9 to 11.4). MI with RVI had approximately 5.3 times more chance of developing cardiogenic shock than those without RVI which was statistically significant (p<0.05 OR 5.3, 95% CI 1.9 to 14.7). The patients of RVI had approximately 2.2 times more chance of developing acute LVF than those without RVI which was not statistically significant (p = 0.227, OR 2.2, 95% CI 0.61 to 7.80). RVI had approximately 3.2 times more chance of developing conductive disturbance (Complete heart block, 1st degree heart block, J brady, Sinus bradycardia, Sinus trachycardia) than those without RVI which was statistically significant (p<0.05, OR 3.2, 95% CI 1.3 to 7.17). The patient of RVI had approximately 4.6 times more chance of developing cardiac arrest than those without RVI which was not statistically significant (p = 0.063, OR 4.6, 95% CI 0.09 to 22.7). Inferior MI with RVI had approximately 6.7 times more chance of death than those without RVI which was not statistically significant (p = 0.084, OR 6.7, 95% CI 0.77 to 57.6). This analysis showed Patients with inferior myocardial infraction with right ventricular myocardial involvement appear to have a worse prognosis than those who do not have RV involvement. Angiography was evaluated by visual estimation. So, there is chance of misinterpretation to identify the lesions. These data had interpreted with caution, because potentially confounding variables influencing mortality were not equally distributed between groups in a registry setting.

CONCLUSION

To conclude, by taking a little extra effort and doing right precordial leads while taking conventional leads, followed by angiographic of right ventricle would be reduced hospital morbidity and mortality by diagnosing RVI early. Acute inferior wall myocardial infarction is complicated by right ventricular infarction and is a well-known entity. Right ventricular infarction makes the hemodynamics of the patient unstable. However elevated JVP, hypotension and bradyarrythmia were common in these patients they were not fully diagnostic of the condition. This explains the importance of right precordial mapping in these patients to diagnose the condition. Early diagnosis means careful management for avoidance of complications like hypotension; complete heart block etc, which were common in these

patients, by using inotropics, volume loading and IV atropine.

Conflict of Interest: None.

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