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CLINICAL OUTCOMES OF CONSERVATIVELY TREATED ACS AT HOSPITAL DISCHARGE AND AT 3 MONTH POST DISCHARGE

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Contribution
NH,AA helped in literature review, research design and finalizing the manuscript. STH,FA, SSH helped in data collection and data analysis. SJS,AZ finalized methodology. MH helped in final draft. All authors contributed significantly to the submitted manuscript.

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ABSTRACT:

Objective: Aim of this study was to know the outcomes of conservatively treated ACS at hospital discharge and third month post discharge.

Methodology: This cross sectional study was conducted at Cardiology department of Khyber Teaching Hospital from 1st December 2013 to 31st December 2014. Data was collected at discharge and after 3rd month on proper performa. ECG and blood sampling for cardiac troponins were done. Patients were closely observed for complications during hospital stay and then were followed for three months.

Results: A total of 100 patients were included. Among them 50% were females. Mean age of the patients was 59.14±8.25 years. Patients admitted with STEMI (73%) were more as compared to NSTEMI(18 %) and UA (9.0 %). Among conventional risk factors 21 % had both diabetes and hypertension. Mean time from onset of symptoms till CCU admission was 7.5±3.8 hours. Streptokinase was given within mean time of 35±16 minutes after presenting to emergency department to all STEMI patients. Mild mitral regurgitation (20%) followed by cardiac pulmonary edema (19%) was more common in-hospital complications. In hospital mortality was 9%. Patients were followed for 03 months. Among 91 patient discharged, cardiac pulmonary edema (11.11%) and post MI angina (08.88%) were common complications.

Conclusion: ACS patients treated conservatively have poor outcome and more complications. Therefore early invasive strategy should be considered in ACS patients.

Key Words: Acute Coronary Syndrome, conservative management, complications, cardiac pulmonary edema.

INRTODUCTION

Cardiovascular disease is a huge public health problem in industrialized world and is on rise in developing countries .[1] Acute chest pain is one of the most common reasons for presentation to the emergency department (ED), accounting for approximately 7 million ED visits annually in the United States. This presentation suggests acute coronary syndrome (ACS), but after diagnostic evaluation, only 15% to 25% of patients with acute chest pain actually have ACS.[2,3]

Early intravenous fibrinolysis undoubtedly improves survival in patients with STEMI.[4] Mortality varies considerably, depending on the patients included for study and the adjunctive therapies used. The benefit of fibrinolytic therapy appears to be greatest when agents are administered as early as possible, with the most dramatic results obtained when the drug is given less than 2 hours after symptoms begin.[5] There are two general approaches to the patients with UA/NSTEMI: (1) an early invasive strategy, involving routine early cardiac catheterization followed by PCI, CABG, or continuing medical therapy, depending upon the coronary anatomy; and (2) a more *conservative* approach, with initial medical management and catheterization reserved for patients with recurrent ischemia.[6,7]

Though primary PCI and early invasive strategy is superior to conservative management for treatment of ACS, but optimal pharmacologic therapy is also associated with reduction in mortality, infarct size and reduction in complications. The complications of ACS are broadly divided into mechanical, arrhythmic, embolic and inflammatory. The mechanical complications include VSR, acute severe MR, free wall rupture, ventricular aneurysm, cardiogenic shock, RV failure, pericarditis, and arrhythmias.[8,9]

The aim of this study was to find out the outcomes of patients treated conservatively.

METHODOLOGY

This cross sectional study was conducted at Khyber Teaching Hospital Cardiology Unit from 1st December 2013 to 31th December 2014. This study was approved by hospital ethical committee and informed consent was taken from all patients. Patients of either gender and any age presenting to CCU with ACS, undergoing conservative management, were studied. After taking ECG, and collection of blood for cardiac troponin, patients were closely observed for in-hospital complications and then at the time of discharge. They were followed at month three at OPD and through telephone. Outcomes were broadly classified as mechanical, electrical, pump failure and mortality. Statistical analysis was performed using SPSS 17. Continuous variables were expressed as mean ± standard deviation and categorical variables were expressed as percentages.

RESULTS

A total of 100 patients were included. Among them 50% were females. Mean age of the patients was 59.14±8.25 years. Baseline characteristics are shown in Table 1. Patients admitted with STEMI (73%) were more as compared to NSTEMI(18 %) and UA (9.0 %). Among conventional risk factors 21 % had both diabetes and hypertension as shown in Table 1. Mean time from onset of

Table 1: Baseline Characteristics of Study Population (n=100)

Variables		Frequency n (%)
Age in years (Mean ± SD)		59.14±8.25
Gender	Female	50 (50%)
	Male	50 (50%)
ACS	STEMI	73 (73%)
	NSTEMI	18 (18%)
	USA	09 (09%)
Risk Factors	HT	18 (18%)
	DM	11 (11%)
	Smoking	07 (07%)
	Family History	02 (02%)
	DM+HTN	21(21%)
	More than one risk factor	44 (44%)
Mean Trop I (ng/ml)		16.44±12.36
Mean Hospital stay in days		05±03
Drugs	Aspirin	100 (100%)
	Clopidogrel	100 (100%)
	ACEI/ARBS	85 (85%)
	B-Blockers	78 (78%)
	Statins	98 (98%)
	Anticoagulant (Enoxaparin)	94 (94%)
	Streptokinase	73(73%)

symptoms to CCU admission was 7.5±3.8 hours. Streptokinase was given within mean time of 35±16 minutes after presenting to emergency department to all STEMI patients. Mild mitral regurgitation (20%) followed by cardiac pulmonary edema (19%) were more common in-hospital complications as shown in Table 2. Mortality rate was 9%. Patients were followed at third month. Among 91 patient discharged, one was lost to follow up. At third month follow up, cardiac pulmonary edema (11.11%) and Post MI angina (08.88%) were common complications as shown in Table 3.

Table 2: In Hospital Complications of Study Population (n=100)

Variables	Frequency n(%)
Mortality	09(09%)
Cardiac Pulmonary edema	19 (19%)
Cardiogenic shock	07 (07%)
Mild Mitral Regurgitation	20 (20%)
Stroke	02 (02%)
Atrial Fibrillation	04 (04%)
Ventricular Tachycardia	03(03%)
Complete Heart Block	01 (01%)
Ventricular Septal Rupture	02 (02%)

Table 3: Outcomes at Third Month Follow Up in study population (n=90)

Variable	Frequency n(%)
Mortality	11 (11%)
Cardiac Pulmonary Edema	10 (11.11%)
Post MI Angina	08 (08.88%)
Non Fatal MI	02(02.22%)
Stroke	02(02.22%)

DISCUSSION

In recent years, there has been a shift in the clinical presentation of acute coronary syndromes (ACS) to milder forms, with evidence suggesting that the case severity in acute myocardial infarction (AMI) may be decreasing and that patients hospitalized with Acute Myocardial Infarction have smaller infarcts with lower case fatality. In addition, there is an increase in the rates of unstable angina, which is a milder form of the ACS.[10-14]

In this study In hospital mortality was 9% while at 3 months total mortality was 11%. In india a large study was conducted on similar patient population with majority of the patients receiving streptokinase as thrombolytic therapy, they reported one month follow up mortality of 8.6% in STEMI patients while it was quite low in NSTEMI/USA patients.[16] Symptoms to hospital admission time was less (6hours) compared to our study (7.5 hours). Another study from china reported in-hospital mortality of 5% but many of their patients were offered invasive treatment.[17]

In this study we observed that heart failure/cardiopulmonary edema, cardiogenic shock and mild mitral Regurgitation developed in 19%, 07% and 20% patients respectively. In Euro heart study in ACS survey mild to moderate heart failure was noted in approximately 15% patients, pulmonary oedema in 2.3% and 4.2% male and female patients respectively while 3% of male and 4.7 % of female patients developed cardiogenic shock.[18] In our study 4% patients developed AF and 3% VT during hospital stay while another study reported AF in 2.7% patients and asystole in 1.3% patients.[18]

Post MI angina occurred in 8% of our study patients while Euroheart ACS survey reported recurrent ischemia in 10.6% and 13.6% male and female patients respectively in the age range of 55-64 years.[18]

Ventricular septal rupture which complicated 2% of our ACS patients was less common (0.2%-0.34%) in earlier reports.[19]

The incidence of stroke was 2% during hospital stay in our study while about 2% patients developed stroke during 3 month follow up. In the PURSUIT trial of almost 11000 patients, the overall stroke rate through 30-day follow-up was 0.7%.[20] In GUSTO IIb, 8011 patients with acute coronary syndromes without persistent ST-segment elevation. The overall incidence of stroke was 0.8%.[21]

CONCLUSION

Conservative management of ACS is associated with poor outcomes. Timely administration of thrombolytic therapy should be encouraged to optimize clinical outcomes in ACS. Moreover early invasive strategy should be considered where ever facility is available.

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