

Primary Percutaneous Coronary Intervention for Acute Myocardial Infarction in Ibn Alnafees Hospital, Baghdad

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ABSTRACT:

BACKGROUND:

Primary percutaneous coronary intervention (PCI) provides outcomes superior to fibrinolytic therapy in acute myocardial infarction (AMI), but no registry or study in Iraq has demonstrated its use in hospital.

OBJECTIVE:

To evaluate using of primary PCI for acute MI in Ibn Alnafees hospital –Baghdad.

METHODS:

Patients between 2010 and march 2013 having symptom onset within 12 hours and either ST-segment elevation of - 1 mm in - 2 contiguous leads or presumed new left bundle branch block (LBBB) in electrocardiogram (ECG) who were treated with primary PCI were included in this study. Two patient had cardiogenic shock treated within 16 hours.

RESULTS:

A total of 76 patient included in this study having primary PCI for acute MI. successful result reported in 71 of cases, while death reported in 2 cases, slow flow in 2 cases, no re flow in one case and stent thrombus formation in one case. No need for urgent or elective CABG.

CONCLUSION:

Primary PCI for patients with AMI having ST-elevation or new LBBB is a safe and effective strategy

KEY WORD: primary PCI, acute MI.

INTRODUCTION:

Acute myocardial infarction is generally due to the sudden obstruction of a coronary artery by the formation of a thrombus at the site of a fissured or ruptured atherosclerotic plaque^(1,2). Reperfusion therapy aims at restoration of ante grade flow in the occluded infarct-related artery⁽³⁾. This reduces infarct size and improves clinical outcome⁽⁴⁻⁵⁾.

Aim of this study is to evaluate using of primary PCI for acute MI in Ibn Alnafees hospital .

PATIENT AND METHODS:

Design: Descriptive study

Setting : Ibn Alnafees hospital for cardio thoracic surgery

Duration : beginning of 2010 and end of March 2013

Inclusion criteria: Patients having symptom onset within 12 hours and either ST-segment elevation of -1 mm in - 2 contiguous leads or presumed new left

bundle branch block (LBBB) in electrocardiogram (ECG) who were treated with primary PCI were included. Two patient had cardiogenic shock treated within 16 hours.

Exclusion Criteria: patients with chronic stable angina , Old MI , previous cardiac intervention or previous coronary bypass surgery were excluded from this study.

Statistical analysis: All Data summarized in No. , % and Mean \pm standard deviation . All statistical analyses were performed using the statistical package program SPSS 17.

RESULTS:

A total of 76 consecutive patients were diagnosed as AMI between January 2010 and March 2013. Excluding those patients with non-ST-elevation MI (NSTEMI), all those patients underwent primary PCI because of symptoms onset less than 12 hours, Two patient had cardiogenic shock treated within 16 hours.

Studying demographic characters of studying group shows that : age of 59 ± 11 year old , Males were

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PERCUTANEOUS CORONARY INTERVENTION

82% and 18 % were females. LVEF \leq 40% found in 14% of cases.

Table (1) shows distribution of studied group according to infarct related artery. Right Coronary

Artery (RCA) was the main artery involved in the study group (47.37 %), followed by Left Anterior Descending Artery in (40.79 %) of patients while Left circumflex artery and Left Main stem found in (10.53 %) and (1.32 %) respectively

Table 1: Distribution of studied group according to infarct related artery.

Site of coronary artery involved	No.	%
Left main	1	1.32
LAD	31	40.79
LCX	8	10.53
RCA	36	47.37
Total *	76	100

* stenenting done for infarcted Artery only

Studying the angiographic finding of studied group shows in table(2) in which we record Diameter of reference vessel, Minimal diameter of lesion in Infarcted

Related Artery, Stenosis rate of lesions , Maximum balloon size , Stent size, Stent length , Maximum deployment pressure .

Table 2: Angiographic finding in primary PCI.

Angiographic finding of primary PCI	Mean \pm SD
Diameter of reference vessel (mm)	3.01 \pm 0.75
Stenosis rate of lesions (%)	91 \pm 11
Minimal diameter of lesion (mm)	0.17 \pm .032
Maximum balloon size (mm)	2.00 \pm 0.50
Stent size (mm)	3.3 \pm 0.56
Stent length (mm)	19 \pm 6
Maximum deployment pressure (atm)	18 \pm 4
Stent rate %	98

Table (3) Shows The immediate outcome in Primary PCI , In which 2 patients died at time of primary PCI (because of cardiogenic shock &delayed intervention) and slow flow reported in 2

patients, No reflow in one patient, While stent thrombosis in Only one patient. No patient need Urgent or elective Coronary arterial bypass grafting (CABG).

Table 3: Distribution of studied group according immediate Clinical outcome.

Clinical Outcome	No.	%
Successful outcome	70	92.10
Death	2	2.65
Slow flow	2	2.65
No reflow	1	1.30
Stent thrombosis	1	1.30
Urgent CABG	0	0
Elective CABG	0	0
Total	6	8.90

Only 11 patients has thrombectomy through extraction catheter(14.5%).

DISCUSSION:

There is general consensus that emergency percutaneous coronary intervention (PCI) is the preferred treatment for patients with ST-elevation myocardial infarction (STEMI), so long as it can be delivered in a timely fashion, by an experienced operator and cardiac catheterization laboratory (CCL) team. STEMI is both a functional and structural issue.

Outcomes for patients with acute MI can be improved if efforts are made to optimise the interval from symptom onset to angioplasty. This will require concerted efforts, including public awareness through education to reduce the symptom-to-emergency room time, and maximising efficiencies in door-to-intervention times for primary angioplasty. Compared to developed countries, our patients present at a relatively young age. Infarct-related artery was the left anterior descending artery in 49.7% in study done in Department of Cardiology, Kartal Koşuyolu Heart and Research Hospital, İstanbul, Turkey, while our study the major infarcted artery is the RCA 47.3%, like most of other studies, male predominate in our study.

CONCLUSION:

Primary PCI play an important role in management of Acute MI and carry less risk

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