Pattern of Admission to the Coronary Care Unit at El-Manial Specialized Hospital

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بسم الله الرحمن الرحيم

{.. وَأَنزَلَ اللّهُ عَلَيْكَ الْكِتَابَ وَالْحِكْمَةَ وَعَلَّمَكَ مَا لَمْ تَكُنْ تَعْلَمُ وَكَانَ فَضْلُ اللّهِ عَلَيْكَ عَظِيماً }

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ABSTRACT

Background: The first coronary care units were established in the early 1960s in an attempt to reduce mortality from acute myocardial infarction. The modern era of aggressive management of ACS was introduced by the establishment of the CCUs, and later by the development of reperfusion therapies, which led to a reduction in death rates of STEMI from 30% or more to less than 10%. Coronary care units (CCUs) should ensure the best intensive therapy for all critical cardiologic patients and not only for patients with acute coronary heart disease.

Objective: Registry of all patients admitted to El-Manial specialized hospital CCU during the period of the study from 1/4/2008 to 31/3/2009 to determine the pattern of admission of the cardiac and non-cardiac cases, Determine the in hospital mortality, Follow up of patients admitted to the coronary care unit during the period of the study, Determine the percentage of patients admitted to the coronary care unit with STEMI vs. NSTEMI during the period of the study and the percentage of patients with STEMI who received thrombolytic therapy during the window period.

Methods: 473 cases were included in this study & divided into 2 groups: Cardiac group : 440 cases, Non- cardiac group : 33 cases.

Clinical evaluation: History taking (age, gender, risk factors), Full clinical examination.

Admission diagnosis, Hospital stay, discharges diagnosis.

Results: ACS patients constitute the majority of patients. All patients with ACS underwent extensive investigations including coronary angiography. PCI was done to 62% of cases who underwent coronary angiography, medical treatment was recommended to 22%, CABG was recommended to 9%, and normal coronary angiography was found in 7% of cases. Thrombolytic therapy was given 66% of acute STEMI cases in the CCU and to 7% in the emergency department. Congestive heart failure and serious rhythm disturbances constituted a second more common cause for admission to the coronary care unit. Overall mortality rate was 6.7% suggesting high level of care in this high risk group of patients.

Conclusion: ACS patients constitute the majority of patients. All patients with ACS underwent extensive investigations including coronary angiography. PCI was done to 62% of cases who underwent coronary angiography, medical treatment was recommended to 22%, CABG was recommended to 9%, and normal coronary angiography was found in 7% of cases. Thrombolytic therapy was given 66% of acute STEMI cases in the CCU and to 7% in the emergency department.

Congestive heart failure and serious rhythm disturbances constituted a second more common cause for admission to the coronary care unit. Overall mortality rate was 6.7% suggesting high level of care in this high risk group of patients.

Key Words: coronary care unit, STEMI, NSTEMI, unstable angina, SK, PCI, mortality rates.

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List of Abbreviations

ACS	Acute Coronary Syndrome
AF	Atrial Fibrillation
A. Flutter	Atrial Flutter
AMI	Acute Myocardial Infarction
AR	Aortic Regurgitation
AS	Aortic Stenosis
AT	Atrial Tachycardia
AVNRT	AV nodal reentrant tachycardia
CABG	Coronary Artery Bypass Graft
CAD	Coronary artery disease
CHB	Complete Heart Block
CHF	Congestive Heart Failure
CPR	Cardiopulmonary resuscitation
CVS	Cerebrovascular stroke
CXR	Chest X-ray
DCC	Direct Current Cardioversion
DCM	Dilated Cardiomyopathy
DM	Diabetes Mellitus
ECG	Electrocardiogram
ECHO	Echocardiography
ED	Emergency Department
EPS	Electrophysiological study
HOCM	Hypertrophic Obstructive Cardiomyopathy
HTN	Hypertension
ICA	Internal carotid artery
ICM	Ischemic Cardiomyopathy

IVC	Inferior vena cava
LVF	Left ventricular failure
MR	Mitral Regurgitation
MS	Mitral Stenosis
NSTEMI	Non ST segment elevation myocardial infarction
PAT	Paroxysmal Atrial Tachycardia
PCI	Percutaneous Coronary Intervention
PMBV	Percutaneous Mitral Balloon Valvuloplasty
PS	Pulmonary Stenosis
PTCA	Percutaneous Transluminal Coronary Angioplasty
RCM	Restrictive Cardiomyopathy
RV	Right ventricle
RVF	Right ventricular failure
SGNHC	Singapore National Heart Center
SK	Streptokinase
STEMI	ST segment elevation myocardial infarction
SVT	Supraventricular tachycardia
TEE	Transesophageal echocardiography
UA	Unstable angina
VF	Ventricular Fibrillation
VT	Ventricular Tachycardia
V/Q Scan	Ventilation-Perfusion scan

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Introduction

INTRODUCTION

The first coronary care units were established in the early 1960s in an attempt to reduce mortality from acute myocardial infarction.[1]

Awareness of the morbidity and mortality of the wider spectrum of acute coronary ischemia was unrecognized at that time.[2]

Pioneering cardiologists recognized the threat of death due to malignant arrhythmias in the post infarction setting, and developed techniques for successful external defibrillation.[1]

The ability to abort sudden death led to continuous monitoring of the cardiac rhythm and an organized system of cardiopulmonary resuscitation, incorporating external defibrillation cardiac drugs and specialized equipment.[1]

The development of techniques to treat cardiogenic shock, limit infarct size and initiate prehospital coronary care, all of which laid the foundation for the current era of interventional cardiology.[1]

The occurrence of an acute coronary syndrome (ACS) represents a dramatic stage in the otherwise relatively slow and progressive course of coronary artery disease, bringing into perspective its life-threatening implications. The modern era of aggressive management of these syndromes was first introduced by the establishment of the coronary care unit, and later by the development of reperfusion therapies, which led,

within two decades, to a reduction in death rates of ST segment elevation myocardial infarction from 30% or more to less than 10%. The insights gained into the pathophysiology of ACSs, combined with increasingly efficient risk stratification schemes in screening patients with non-ST segment ACS, have given a boost to the development of antithrombotic therapies. Acetylsalicylic acid, as well as the combination of acetylsalicylic acid and heparin with the addition of an intravenous glycoprotein IIb/IIIa antagonist and/or the addition of an ADP P2Y12 receptor blocker, when combined with an invasive strategy targeting revascularization of the culprit coronary lesion (when appropriate), have successfully reduced the rates of adverse clinical outcomes in non-ST segment elevation ACS from 25% to 10%. These rates, however, did not improve further during the past few years, while the number of such patients is increasing to now account for the majority of admissions to coronary care units.[3]

Coronary care units (CCUs) should ensure the best intensive therapy for all critical cardiologic patients and not only for patients with acute coronary heart disease. Such structures apply the Hub & Spoke model, which consists of an integrated network of services allowing a health organization in which different realities interact and collaborate; this organization is composed of referral core centers (Hubs) and smaller structures (Spokes) referring to Hubs that are engaged in selection, channeling of patients in the acute phase, and for follow-up care of patients in the post-acute phase.[4]

Concerning the duration of stay within the CCU, clear-cut indications are difficult, but the concept is emphasized that the length of stay should be

minimized, given the limited bed availability, in order to ensure the availability of intensive monitoring to all critical patients.[5]

Key words:

Coronary care units, STEMI, NSTEMI.