Registry for Acute ST Elevation Myocardial Infarction

A Thesis

Submitted For Partial Fulfillment of Master Degree
in Cardiology

By
Moataz Mahmoud Yousri

M.B., B. Ch. (2006)
Ain Shams University

Supervised by

Dr./ Mohamed Ayman Saleh

Professor of Cardiology
Faculty of Medicine, Ain Shams University

Dr./ Sameh Samir

Assistant professor of Cardiology
Faculty of Medicine, Ain Shams University

Ain Shams University

Faculty of Medicine

2015

*Praise be to **ALLAH**, The Merciful, The Compassionate for all the gifts I have been offered; One of the gifts is accomplishing this research work.*

*I would like to express my sincere gratitude to **Prof. Dr. Ayman Saleh,** Professor of Cardiology, Faculty of Medicine – Ain shams University, under his supervision, I had the honor to complete this work. I am grateful to him for his professional advice, guidance and support.*

*I wish also to express my appreciation and gratitude to **Dr. Sameh Samir,** Assistant professor of Cardiology, Faculty of Medicine –Ain Shams University, for his great efforts, kind advice, support and encouragement throughout the whole work.*

I would like to thank my dad, mom and my beloved wife for their support and encouragement.

*Special thanks and gratitude to **Prof. Dr. Magda Shoukry,** Professor of Endocrinology, Faculty of Medicine – Ain shams University for her continuous support.*

✍ **Moataz Mahmoud Yousri**

List of Contents

List of Abbreviations

1ry   : Primary

ABP   : Arterial blood pressure

ACAD   : Atherosclerotic coronary artery disease

ACC/AHA   : American college of cardiology/ American heart association

ACE   : Angiotensin converting enzyme

ACS   : Acute coronary syndrome

AKUH   : Agha Khan University hospital

AMI   : Acute Myocardial infarction

Atm.   : Atmospheres

BMS   : Bare metal stent

CAD   : Coronary artery disease

CBC   : Complete blood count

CCU   : Coronary care unit

CIN   : Contrast induced nephropathy

COMMIT   : Clopidogrel and Metoprolol in Myocardial Infarction Trial

CPK   : Creatine Phospho Kinase

CPR   : Cardio pulmonary resuscitation

CRP   : C reactive protein

CVA   : Cerebrovascular accident

D2B   : Door to balloon

D2N   : Door to needle

DBP   : Diastolic blood pressure

List of Abbreviations *(Cont...)*

DES	: Drug eluting stent
DM	: Diabetes Mellitus
ECG	: Electro cardiogram
EF	: Ejection Fraction
EHS	: Euro heart survey
ER	: Emergency room
ESC	: European society of cardiology
FDA	: Food and drug administration
FMC	: First medical contact
GP	: Glycoprotein
GUSTO	: Global Use of Strategies to Open Occluded Arteries
HR	: Heart rate
hrs.	: Hours
HTN	: Hypertension
HUS-STEMI	: Helsinki-Uusimaa Hospital District registry of STEMI
IABP	: Intra-aortic balloon pump
ICH	: Intra cranial hemorrhage
IL	: Interleukin
ISIS	: International Studies of Infarct Survival
JVP	: Jugular venous pressure
KIR	: Karachi institute registry

List of Abbreviations *(Cont...)*

LAD	: Left Anterior Descending artery
LBBB	: Left bundle branch block
LCX	: Left Circumflex artery
LDL	: Low density lipoprotein
LM	: Left Main artery
LV	: Left ventricle
min.	: Minute
mm	: Millimeter
mos.	: Months
MR	: Mitral regurgitation
NRMI	: National registry of myocardial infarction
NSTEMI	: Non ST elevation myocardial infarction
OM	: Obtuse Marginal artery
PCI	: Percutaneous coronary intervention
RAAS	: Renin angiotensin aldosterone system
RCA	: Right Coronary artery
SBP	: Systolic blood pressure
SK	: Streptokinase
STEMI	: ST elevation myocardial infarction
TACSR	: Thai Acute Coronary Syndrome Registry
TIMI	: Thrombolysis in Myocardial Infarction
TnI	: Troponin I
TnT	: Troponin T

List of Abbreviations *(Cont...)*

t-PA	: Tissue Plasminogen activator
UFH	: Unfractionated heparin
URL	: Upper reference limit
US	: United States
VSD	: Ventricular septal defect
WHO	: World Health Organization
wks.	: Weeks

List of Tables

List of Tables (Cont...)

List of Figures

List of Figures *(Cont...)*

List of Figures *(Cont...)*

List of Figures *(Cont...)*

List of Figures *(Cont...)*

Introduction

Atherosclerosis is said to be the 21st century pandemic. It is almost universally present in adults in both developed and developing countries accounting for major economic losses and consuming healthcare funds. [1]

In affluent societies, coronary artery disease causes severe disability and more death than any other disease, including cancer. It manifests as angina, silent ischemia, unstable angina, myocardial infarction, arrhythmias, heart failure, and sudden death. [2]

ST-elevation myocardial infarction is by far the most serious presentation of ACAD carrying the most hazardous consequences & patients with ST elevation are triaged immediately for reperfusion therapy, according to ACC/AHA & ESC guidelines for acute MI. [3]

Acute STEMI is defined as the detection of a rise in cardiac biomarkers, with at least one value above the 99th percentile of the upper reference limit, together with evidence of myocardial injury or necrosis which are symptoms and electrocardiographic changes suggestive of new ischemia as new ST-elevation, new left bundle branch block or development of pathologic Q waves on electrocardiogram. [4]