Gender Based Differences in Clinical Features and Mortalities in One-month Duration in Acute ST Elevation Myocardial Infarction Patients

Thesis

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بسم الله الرحمن الرحيم
وَاتَّقُوْا اللّٰهَ وَيُعَلِّمُكُمُ اللّٰهُ
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Candidate

Farag Mohammed Farag Elgallal

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List of Abbreviations

Abbr.	Full-term
ACC	American colleague of cardiology
ACCP	American colleague of clinical pharmacy
ACE	Angiotensin converting enzyme
ACEP	American Colleague of Emergency Physicians
ACS	Acute coronary syndrome
ACT	Activated clotting time
AHA	American Heart Association
ADP	Adenosine diphosphate receptor
AMI	Acute myocardial infarction
aPPT	Activated partial thromboplastin time
BP	Blood pressure
CABG	Coronary artery bypass grafting
CAD	Coronary artery disease
CADILLAC	Controlled Abciximab and Device Investigation to Lower Late Angioplasty Complications
CAPTIM	Comparison of Angioplasty and Prehospital Thrombolysis in Acute Myocardial Infarction trial
CT	Computed tomography
CBC	Complete blood count
CHD	Coronary heart disease
CHF	Congestive heart failure
CK	Creatine kinase
CCU	Coronary care unit
CRP	C-reactive protein
cTnI	Cardiac troponin I
CVA	Cerebrovascular accident
DANAMI	Danish Multicenter Randomized Study on Thrombolytic Therapy versus Acute Coronary Angioplasty in Acute Myocardial Infarction

DM	Diabetes mellitus
DAPT	Dual antiplatelet therapy
DES	Drug eluting stent
EHS_ACS	European heart acute coronary syndrome
ECG	Electrocardiography
EMS	Emergency medical service
ESC	European Society of cardiology
EF	Ejection fraction
FBS	Fasting blood sugar
FMC	First medical contact
FTT	Fibrinolytic Therapy Trialists
GP IIb/IIIa	Glycoprotein IIb/IIIa
GUSTO	Global Utilization of Streptokinase and t-PA for Occluded coronary arteries
GRACE	Global registry of acute coronary syndrome
HDL	High density lipoprotein
HTN	Hypertension
I post	Ischemic postconditioning
IABP	Intra-aortic balloon pump
ICH	Intracranial hemorrhage
IHD	Ischemic heart disease
ISIS	International study of infarct survival
IPC	Ischemic preconditioning
IRA	Infarct related artery
IV	Intravenous
LAD	Left anterior descending artery
LBBB	Left bundle branch block
LCA	Left coronary artery
LCX	Left circumflex artery
LDL	Low density lipoprotein
LM	Left main
LMWH	Low molecular weight heparin
LV	Left ventricle
LVEF	Left ventricular ejection fraction

LVH	Left ventricular hypertrophy
MBG	Myocardial blush grade
MITI	National registry of myocardial infarction
MCE	Myocardial contrast echocardiography
MEK	Mitogen activated protein extracellular signal regulated kinases
m-PTP	Mitochondrial transition pore
MVO	Microvascular obstruction
NO	Nitric oxide
NRMI	National registry of myocardial infarction
NSAIDS	Non-steroidal anti-inflammatory drugs
NSTEMI	Non-ST segment elevation myocardial infarction
NCEP	National cholesterol education program
PCI	Percutaneous coronary intervention
PFA	Platelet function test
P	Probability of chance significant
POC	Postconditioning
PTCA	Percutaneous transluminal coronary angioplasty
PTD	Pulsed tissue Doppler
RBBB	Right bundle branch block
r-pA	Reteplase plasminogen activator
RCTs	Randomized controlled trials
RESTORE	Randomized Efficacy Study of Tirofiban for Outcomes and Restenosis trial
RCA	Right coronary artery
SD	Standard deviation
SPCT	Single photon emission tomography
STEMI	ST segment elevation myocardial infarction
STR	ST segment resolution
TFGs	TIMI flow grades
TNK-tpa	Tenecteplase tissue plasminogen activator
t-PA	Tissue plasminogen activator
TMPG	TIMI myocardial perfusion grade
TIMI	Thrombolysis in myocardial infarction

UA	Unstable angina
UFH	Unfractionated heparin
VD	Vessel disease
Who Monica	World health organization multinational monitoring of trends and determinants of cardiovascular disease
WISE	Women Ischemic Syndrome Evaluation
WHO	World health organization

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Introduction

ST segment elevation myocardial infarction continues to be a significant public health problem in industrialized countries and is becoming an increasingly significant problem in developing countries ***(Antman et al., 2004).***

Many studies of sex-related differences in the short- and long-term outcomes of acute myocardial infraction (AMI) have concluded that mortality is higher among women than men ***(Sakurai et al., 2003).***

The reason for poorer outcomes in women remains unclear. The higher mortality among women may be partially explained by the fact that women were older than men and had higher rates of unfavorable prognostic factors, however several studies continued to show a survival disadvantage for women ***(Kudenchuk et al., 1996)***. The persistence of higher mortality after risk adjustment may be because women usually receive less aggressive treatment for AMI than men **(*Chandra et al., 1998).***

Another potential explanation for the higher mortality among women is delayed presentation to the hospital ***(Meischke et al., 1998)***.

In general, women with AMI present to hospital later than men, suggesting different behavioral responses. Women

have been reported to be less likely than men to believe that they are having a heart attack when they experience symptoms of AMI ***(Meischke et al., 1995).***

Several studies have reported that women have different or less typical symptoms of AMI than men ***(Meischke et al., 1998).*** Women are more likely to have non typical chest pain, nausea or vomiting (or both), and shortness of breath ***(Patel et al., 2004).*** These atypical symptoms may make it difficult for not only women with AMI, but also bystanders and health-care providers to correctly interpret the situation and take action ***(Masami et al., 2006).***

However, analyses adjusting for baseline differences between women and men have yielded conflicting results. Several studies have found that sex is an independent risk factor for increased mortality after AMI ***(Babak et al., 2001)***, whereas others have not ***(Kosuge et al., 2005).***