RELATION BETWEEN EARLY REPOLARIZATION SYNDROME AND VENTRICULAR ARRHYTHMIAS IN THE SETTING OF ACUTE ST SEGMENT ELEVATION MYOCARDIAL INFARCTION

Thesis
Submitted For Partial Fulfillment
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Ragab Mohammed Abdel-hafez Allam
MSc cardiology

Under Supervision of

Prof. Dr. Said Abel-Hafeez Khalid
Professor of Cardiology
Faculty of Medicine, Ain Shams University

Asst Prof. Dr. Osama Ali Diab
Asst Professor of Cardiology
Faculty of Medicine, Ain Shams University

Asst Prof Dr. Haitham Galal Mohamed Helmy
Asst Professor of Cardiology
Faculty of Medicine, Ain Shams University

Dr. Tarek Rashid Mohamed Ameen
Lecturer of Cardiology
Faculty of Medicine, Ain Shams University

Faculty of Medicine
Ain Shams University
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CONTENTS

LIST OF ABBRRVIATIONS

ACS	Acute coronary syndrome
AIVR	Accelerated idioventricular rhythm
AP	Action potentials
APD	Action potential dome
APN	Action potential notch
AMI	Acute myocardial infarction
AV	Atrioventricular
BBB	Bundle branch block
Bpm	Beat per minute
BrS	Brugada syndrome
CABG	Coronary artery bypass grafting
CAD	Coronary artery disease
CARDIA	Coronary Artery Risk Development in Young Adults study
CBC	Complete Blood Count
CCU	Cardiac Care Unit

CHD	Coronary heart disease
CORE	Collaborative Organization for RheothRx Evaluation trial
cTn	cardiac troponin (cTn)
CXR	Chest x-ray
DC	Direct current
DCC	Direct current cardioversion
ECG	Electrocardiogram
EP	Electrophysiologic study
ER	Early repolarization
ERS	Early repolarization syndrome
ESC	European society of Cardiology
FMC	first medical contact
GISSI	Grupo Italiano per lo Studio della Streptochinasi nell'Infarto miocardico trial
GUSTO	The Global Use of Strategies to Open Occluded Coronary Arteries trial
HF	Heart Failure
ICD	Implantable cardioverter-defibrillator

IHD	Ischemic heart disease
INR	International Normalization Ratio
I_{Ca}	Calcium- channel current
$I_{Ca.L}$	Cardiac L-type calcium channel - current
I_{KAA}	Acetylcholine-activated K^+ channel
I_{KATP}	ATP sensitive potassium current
I_{Na}	Sodium channel - current
I_{to}	Transient outward current
IV	Intra venous
IVF	Idiopathic ventricular fibrillation
JPE	J point elevation
LBBB	Left bundle branch block
LDL	Low-density lipoprotein
LPGs	lysophosphoglycerides
LQTS	Long QT syndrome
LV	left ventricular
MI	Myocardial infarction

MIBG	metaiodobenzylguanidine
Na-K-ATPase	Sodium-potassium Adenosine Triphosphate dependent pump
PCI	Percutaneous coronary intervention
PMVT	Polymorphic ventricular tachycardia
PVC	Premature ventricular complex
QTc	Corrected QT interval
QTd	QT dispersion
SAVE	Survival and Ventricular Enlargement trial
SCA	Sudden cardiac arrest
SCD	Sudden cardiac death
SPB	Systolic blood pressure
SQTS	Short QT syndrome
STEMI	ST-segment elevations
TGA	Triglyceride acids
TTE	Transthoracic echocardiography
VAs	Ventricular arrhythmias

VF	ventricular fibrillation
VPBs	ventricular premature beats
VTAs	Ventricular tachyarrhythmias
VT	ventricular tachycardia
URL	Upper reference limit
WHO	World health organization

LIST OF FIGURES

	onset of to acute global myocardial ischemia gave rise to ST-segment elevation in an arterially perfused, right ventricular wedge preparation.	
9	Acute regional myocardial ischemia resulted in complete loss of prominent AP dome at Epi_2 within the ischemic zone but not at Epi_1 by perfused side of the ischemic border	107
10	Effect of a brief episode of myocardial ischemia on I_{to}-mediated epicardial AP dome	111
11	J-wave syndromes	117
12	Twelve lead surface ECG from a patient with extensive anterior infarction and early repolarization pattern in the form of isolated J waves (without ST segment elevation) in inferior leads (patient number 6 among case group). J wave amplitude was measured from the isoelectric line just before the onset of QRS complex to the summit of J wave (measuring 3 mm).	133
13	Surface ECG from lead II.A: Slurred J waves. There is smooth transition from the terminal part of QRS complex to the ST segment despite of slight oscillations (patient number 1 among the control group). B: Notched J waves: Arrow points to the positive deflection at the QRS-ST junction (patient number 14 among the case group).	134
14	Different early repolarization patterns with different ST segment shifts: upsloping ST segment elevation (A), horizontal ST segment elevation (B), isoelectric ST segment (C), and ischemic ST segment depression (D). In (C) and (D) the diagnosis of early repolarization is based only on the presence of J waves as indicated by arrows (patients number 4, 8,	134

	30, and 42 respectively among the case group).	
15	Types and incidence of ventricular tachyarrhythmias (VTAs)	140

LIST OF TABLES

INTRODUCTION

Early repolarization (ER) is a common electrocardiographic variant manifested as notching or slurring morphology of the QRS complex or J-point elevation on the standard 12- lead electrocardiogram (ECG) (Shipley et al., 1963). It has been widely considered as a benign electrocardiographic finding, commonly expressed in young, healthy individuals without structural heart disease (Klatsky et al., 2003).

However, later experimental studies (Gussak et al., 2000) described in vitro its arrhythmogenic potential. In 2008, (Haissaguerre et al., 2008) and (Rosso et al., 2008) nearly showed that the ER pattern is significantly more common in survivors of aborted sudden cardiac death and hence proposed a link between an ECG phenotype and increased susceptibility to malignant ventricular arrhythmias.

Large population-based studies established that the presence of J waves is strongly associated with an increased risk for arrhythmic death (Sinner et al., 2010; Tikkanen et al., 2009; Haruta et al.,