Effect of Ivabradine on the Infarct size and Remodeling in Patients with STEMI

Thesis

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List of Abbreviations

%	Percentage.
AF	Atrial fibrillation.
AMP	Adenosine mono phosphate.
BEAUTIFUL	Morbidity-mortality EvAlUation of The If inhibitor ivabradine in patients with coronary disease and left ventric ULar dysfunction.
CAD	Coronary artery disease.
CARVIVA HF	Effect of Carvedilol, Ivabradine or their combination on exercise capacity in patients with Heart Failure.
CK	Creatine Kinase.
CLARIFY	Prospective observational longitudinal registry of patients with stable coronary artery disease.
DLP	Dyslipidemia.
DM	Diabetes Mellitus.
EDD	End diastolic diameter.
EDD_e	End diastolic diameterby echocardiography.
EDV	End diastolic volume.
EDV_{Sp}	End diastolic volume by SPECT.
EF	Ejection fraction.
EF_e	Ejection fraction by echocardiography.

EF_{Sp}	Ejection fraction by SPECT.
ESD	End systolic diameter.
ESD_e	End systolic diameter by echocardiography.
ESV	End systolic volume.
ESV_{Sp}	End systolic volume by SPECT.
GFR	Glomerular filtration rate.
HR	Heart rate.
HTN	Hypertension.
ICD	Intracardiac defibrillator.
LAD	Left anterior descending.
LCx	Left circumflex.
LV	left ventricle.
PCI	Percutaneous coronary intervention.
PPM	Permenant pacemaker.
RCA	Right coronary artery.
SHIFT	Systolic heart failure treatment with If inhibitor ivabradine trial
SPECT	Single-photon emission computed tomography.
SRS	Summed rest score.
SSS	Sick sinus syndrome.
Vs	Versus.

Introduction

Introduction

Coronary artery disease remains the leading cause of mortality worldwide. Despite advances in primary and secondary prevention, including revascularization, the condition continues to impose a major burden upon public health[1,2].

Increase in heart rate induced by physical or emotional effort is well known as an important determinant of ischemia. Ischemia results when myocardial perfusion is insufficient to meet metabolic demand. The role of increased heart rate is well established in the patho- physiology of myocardial ischemia, as it influences myocardial oxygen demand and supply through the modification of diastolic time during coronary filling[3].

Ivabradine is a new heart rate reducing agent, which has demonstrated anti-anginal and anti-ischemic properties in patients with stable angina. In an atherosclerosis model, selective heart rate reduction with ivabradine has been shown to decrease markers of vascular oxidative stress and to decrease atherosclerotic plaque formation [4].

It is hypothesized that addition of ivabradine to standard medical therapy would have a beneficial effect in decreasing the infarct size through the heart rate reduction in acute coronary syndrome specially in patients presented with STEMI.

Aim of the Work