



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**HANAA ALY**



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# جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



## يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



**HANAA ALY**



# **Impact of Lipophilic Versus Hydrophilic Statin Administration on the Clinical Outcome and Cardiac Markers of Patients with Heart Failure**

**A Thesis**

Submitted for the fulfillment of the Ph.D. degree  
in Pharmaceutical Sciences  
**(Clinical Pharmacy)**

Submitted by

**Nouran Omar El Said**

Master of Pharmaceutical Sciences, 2015  
Assistant Lecturer, Pharmacy Practice & Clinical Pharmacy  
Faculty of Pharmacy, Future University in Egypt

**2021**



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By

**Nouran Omar El Said**

Assistant Lecturer, Pharmacy Practice & Clinical Pharmacy  
Faculty of Pharmacy, Future University in Egypt

Under Supervision of

**Prof. Dr. Ebtissam Abdel Ghaffar Darweesh**

Professor of Pharmacology  
Faculty of Pharmacy, Future University in Egypt

**Prof. Dr. Lamia Mohamed El Wakeel**

Professor of Clinical Pharmacy  
Faculty of Pharmacy, Ain Shams University

**Asst. Prof. Dr. Hazem Mohamed Khorshid**

Associate Professor of Cardiology  
Faculty of Medicine, Ain Shams University

**Dr. Marwa Adel Ahmed**

Lecturer of Clinical Pharmacy  
Faculty of Pharmacy, Ain Shams University

**2021**



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿ قالوا سبحانك لا علم لنا الا ما علمتنا

﴿ انك انت العليم الحكيم

صدق الله العظيم  
الآيه (32) سورة البقره

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*Nouran Omar*

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الملخص العربي

## List of Abbreviations

<b>2D</b>	2 dimensional
<b>ACC</b>	American College of Cardiology
<b>ACE-I</b>	angiotensin converting enzyme inhibitor
<b>AF</b>	atrial fibrillation
<b>Ag</b>	angiotensin
<b>AHA</b>	American Heart Association
<b>A-HeFT</b>	African-American Heart Failure Trial
<b>ALT</b>	alanine aminotransferase
<b>ANP</b>	atrial natriuretic peptide
<b>ARB</b>	angiotensin receptor blocker
<b>ARNI</b>	angiotensin receptor neprilysin inhibitor
<b>AST</b>	aspartate aminotransferase
<b>BB</b>	beta blocker
<b>BMI</b>	body mass index
<b>BNP</b>	brain natriuretic peptide
<b>CAD</b>	coronary artery disease
<b>CO</b>	cardiac output
<b>COPD</b>	chronic obstructive pulmonary disease
<b>CORONA</b>	Controlled Rosuvastatin Multinational Trial in Heart Failure
<b>CR</b>	magnetic resonance imaging
<b>CT</b>	computed tomography
<b>DBP</b>	diastolic blood pressure
<b>DM</b>	diabetes mellites

## List of Abbreviations

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<b>ECG</b>	electrocardiogram
<b>ELISA</b>	enzyme-linked immunosorbent assay
<b>ESC-HF</b>	European Society of Cardiology-Heart Failure
<b>ET-1</b>	endothelin-1
<b>FDA</b>	Food and Drug Administration
<b>GDMT</b>	guideline directed medical therapy
<b>GISSI-HF</b>	Gruppo Italiano per lo Studio della Sopravvivenza nell'Insufficienza cardiaca–Heart Failure
<b>GFR</b>	glomerular filtration rate
<b>GTP</b>	guanosine triphosphate
<b>HDL</b>	high density lipoprotein
<b>HF</b>	heart failure
<b>HFmEF</b>	heart failure with mid-range ejection fraction
<b>HFpEF</b>	heart failure with preserved ejection fraction
<b>HFrEF</b>	heart failure with reduced rejection fraction
<b>H-ISDN</b>	hydralazine and isosorbite dinitrate
<b>HMG-CoA</b>	3-hydroxy- 3-methyl-glutaryl-CoA
<b>hs CRP</b>	high sensitivity c- reactive protein
<b>ICAM</b>	intracellular adhesion molecules
<b>IL-6</b>	interleukin-6
<b>IQR</b>	intraquartile range
<b>JVP</b>	jugular venous pressure
<b>LDL</b>	low density lipoprotein
<b>LFT</b>	liver function tests
<b>LV</b>	left ventricular
<b>LVEDV</b>	left ventricular end-diastolic volume
<b>LVEF</b>	left ventricular ejection fraction

## List of Abbreviations

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<b>LVESV</b>	left ventricular end-systolic volume
<b>MACE</b>	major adverse cardiac events
<b>MI</b>	myocardial infarction
<b>MLHFQ</b>	Minnesota Living with Heart failure Questionnaire
<b>MRA</b>	mineralocorticoid receptor antagonists
<b>MRI</b>	magnetic resonance imaging
<b>NADPH</b>	nicotinamide adenine dinucleotide phosphate
<b>NE</b>	norepinephrine
<b>NO</b>	nitric oxide
<b>NT-pro BNP</b>	N-terminal pro-brain natriuretic peptide
<b>NYHA</b>	New York Heart Association
<b>OD</b>	optical density
<b>PA</b>	plasminogen activator
<b>PAR-1</b>	protease-activated receptor-1
<b>PARADIGM-HF</b>	Prospective Comparison of ARNI with ACEI to Determine Impact on Global Mortality and Morbidity in Heart Failure
<b>RAAS</b>	renin–angiotensin– aldosterone system
<b>RCT</b>	randomized controlled trial
<b>ROS</b>	reactive oxygen species
<b>SGLT-2</b>	sodium-glucose cotransporter-2
<b>sST2</b>	soluble suppression of tumorigenicity 2
<b>SBP</b>	systolic blood pressure
<b>SHIFT</b>	Systolic Heart Failure Treatment with If Inhibitor Ivabradine Trial
<b>SPSS</b>	Statistical Package for Social Sciences
<b>SV</b>	stroke volume
<b>TC</b>	total cholesterol
<b>TG</b>	triglyceride
<b>TNF-<math>\alpha</math></b>	tumor necrosis factor- $\alpha$
<b>t-PA</b>	tissue-type plasminogen activator
<b>TSH</b>	thyroid stimulating hormone
<b>TTE</b>	trans-thoracic echocardiography
<b>VCAM</b>	vascular cell adhesion molecules

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# ***Abstract***