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ثبكة المعلومات الجامعية





# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بللله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأفلام قد اعدت دون آية تغيرات



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ثبكة المعلومات الجامعية







CORRELATIVE STUDY BETWEEN PLASMA RENIN

ACTIVITY, SERUM LEPTIN AND SERUM INSULIN IN

PATIENTS WITH CONTROLLED AND

UNCONTROLLED ESSENTIAL HYPERTENSION

#### **Thesis**

Submitted to the Faculty of Medicine, University of Alexandria,

in partial fulfillment of the requirements of the degree of

## Master of Clinical and Chemical Pathology

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#### LIST OF ABBREVIATIONS

Abb. Meaning

%B/T Percent of bound over total

μCi Micro-Curie μg Microgram μL Microliter

Radioactive iodine with molecular weight 125

ACTH Adrenocorticotrophic hormone

ANOVA Analysis of variance test
AT Angiotensin receptor
BAT Brown adipose tissue
BMI Body mass index

cAMP Cyclic adenine monophosphate cGMP Cyclic guanosine monophosphate

CHD Coronary heart disease
CPM Count per minute
DBP Diastolic blood pressure

dL Deciliter

DNA Deoxyribonucleic acid EC Enzyme classification

EDTA Ethylene diamine tetra-acetic acid ELISA Enzyme linked immunosorbant assay

FI Fasting insulin

HDL High density lipoprotein

hr Hour

IGF-1 Insulin-like growth factor-1

IgG Immunoglobulin G

IGT Impaired glucoes tolerance IRMA Immunoradiometric assay

ISH International society of hypertension

JAK Janus kinase

JNC VI Sixth Joint National committee on Hypertension

kb Kilobase
kBq Kilo-Bequerell
kg Kilogram
L Liter

LDL Low density lipoprotein

m Meter ml Milliliter

mRNA Messenger ribonucleic acid

MW Molecular weight

ng Nanogram ng Nanogram nmol Nanomol

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### Meaning

Ob-Rb Full-length leptin receptor pmmol Picomol PMSF Phenylmethlysulfonylfluride PPI Post-prandial insulin PRA Plasma renin activity RAAS Renin angiotensin aldosterone system RAS Renin angiotensin system RIA Radioimmunoassay RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation WHO World health organisation	Ob-Ra	Truncated isoform of leptin receptor
PMSF Phenylmethlysulfonylfluride PPI Post-prandial insulin PRA Plasma renin activity RAAS Renin angiotensin aldosterone system RAS Renin angiotensin system RIA Radioimmunoassay RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation	Ob-Rb	Full-length leptin receptor
PPI Post-prandial insulin PRA Plasma renin activity RAAS Renin angiotensin aldosterone system RAS Renin angiotensin system RIA Radioimmunoassay RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation	pmmol	Picomol
PRA Plasma renin activity RAAS Renin angiotensin aldosterone system RAS Renin angiotensin system RIA Radioimmunoassay RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation	PMSF	Phenylmethlysulfonylfluride
RAAS Renin angiotensin aldosterone system RAS Renin angiotensin system RIA Radioimmunoassay RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation	PPI	Post-prandial insulin
RAS Renin angiotensin system RIA Radioimmunoassay RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation	PRA	Plasma renin activity
RIA Radioimmunoassay RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation	RAAS	Renin angiotensin aldosterone system
RNA Ribonucleic acid SBP Systolic blood pressure SD Standard deviation	RAS	Renin angiotensin system
SBP Systolic blood pressure SD Standard deviation	RIA	Radioimmunoassay
SD Standard deviation	RNA	Ribonucleic acid
	SBP	Systolic blood pressure
WHO World health organisation	SD	Standard deviation
	WHO	World health organisation

# INTRODUCTION

# **INTRODUCTION**

#### SYSTEMIC HYPERTENSION

The second half of the twentieth century has seen a progressive decrease in cardiovascular mortality in North America, Western Europe, Japan and Australasia. (1) At the same time, the control of hypertension in these regions has improved considerably.

The Health Examination Surveys in the USA have demonstrated that whereas 10% of hypertensive subjects had their blood pressure lowered to below 140/90 mmHg in 1976-80, the proportion had risen to 27% by 1988-91.<sup>(2)</sup> On the other hand it is important to note that this leaves over 70% of hypertensive subjects with imperfect control (or no treatment at all), as has been reported in many other countries.<sup>(3,4)</sup>

More worrying is the rapid development of the "second wave" epidemic of cardiovascular disease that is now flowing through developing countries and the former socialist republics. It is evident that death and disability from coronary heart disease (CHD) and cerebrovascular disease are increasing so rapidly in these parts of the world that they will rank No. 1 and No. 4 respectively as causes of the global burden of disease by the year 2020. (5)

Given the central role of elevated blood pressure in the pathogenesis of both CHD and stroke, it is clear that one of the biggest challenges facing