## Age related vascular and renal changes in female rats with metabolic syndrome

Thesis Submitted for partial fulfillment of the Doctorate Degree in Physiology

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## تأثير العمر على التغيرات التي تحدث في الأوعية الدموية و الكلي في إناث الفئران اللاتي يعانين من متلازمة الأيض

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# TO MY

FAMILY

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### **List of Abbreviations**

AACE The American association of Clinical

Endocrinology

ACh Acetylcholine

ADP Adenosine diphosphate

AHA American Heart Association

ATP Adenosine triphosphate

BMI Body mass index

CDK Chronic kidney disease

CDV Cardiovascular diseases

Cr Creatinine

CRP C-reactive protein

eGFR Estimated glumerolar filtration rate

EGIR European Group for the Study of Insulin

Resistance

FFA Free Fatty Acids

GLUT Glucose Transporter

HDL-c High density lipoprotein cholesterol

HOMA-IR Homeostasis model assessment of insulin

resistance

ICAM -1 Intercellular adhesion molecule-1

IDF International Diabetes Federation

IFG Impaired fasting glucose

IGT Impaired glucose tolerance

IL-1 Interleukin-1

IL-6 Interleukin-6

IPGTT Intraperitoneal glucose tolerance test

IRS-1 insulin receptor substrate 1

KCL Potassium Cholorid

KS Kidney stones

LDL-c Low density lipoprotein cholesterol

MDA Malondialdehyde

MetS Metabolic syndrome

NALP3 NACHT, LRR and PYD domains-

containing protein 3

NCEP-ATP National Cholesterol Education Program of

III Adult Treatment Panel III

NHANES III National Health and Nutrition Examination

Survey

NHLBI National Heart, Lung and Blood institution

NO Nitric oxide

PE Phenylephrine

PI3K Phosphatidyl inositide 3-kinases

RAS Renin Angiotensin Aldosterone System

ROS Reactive oxygen species

T2DM Type 2 Diabetes Mellitus

TAC Total Antioxidant Capacity

TGs Triglycerides

TNF- $\alpha$  Toumer Necrosis Factor  $\alpha$ 

VLDL Very low density lipoprotein

WHO World Health Organization