Contribution of Oxytocin and Testosterone in attenuating atherosclerotic events and adipose tissue inflammation in male rats

Thesis

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By

Heba Samy Ibrahim Mohamed Shoukry

Assistant lecturer of Physiology Faculty of Medicine Cairo University

Under Supervision of

Prof. Dr. Magda Mahmoud El-Hamzawy

Professor of Physiology, Faculty of Medicine

Cairo University

Ass. Prof. Dr. Heba Mohamed Shawky

Assistant Professor of Physiology, Faculty of Medicine

Cairo University

Ass. Prof. Dr. Hany El Sebaei

Assistant Professor of Physiology, Faculty of Medicine

Cairo University

Prof Dr. Hala Gabr

Professor of Clinical Pathology, Faculty of Medicine Cairo University

Faculty of Medicine

Cairo University 2012

" قالوا سبحانك لا علم لنا إلا ما علمتنا

إنك أنت العليم الحكيم "

صدق الله العظيم

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Abstract

Atherosclerosis is considered one of the most common chronic diseases widely spread in the world nowadays. There are many factors that contribute to the occurrence and the development of this disease. The most common factors that predispose to this disease are excess eating high-fat content diet, decreased physical activity and exposure to social stress in our daily life.

In this study, we aimed to study the effect of high fat diet, psychological stress and androgen deprivation in the progression of atherosclerosis. Moreover, we tried to find the impact of testosterone replacement therapy and oxytocin and their combined effects in attenuating the events of this disease .

Thus the present study aimed to investigate the role of these hormones as athero-protective agents through estimation of the serum lipid profile, inflammatory markers (hs-CRP and IL-6) and serum adiponectin. The gene expression levels of interleukin-6 , estrogen receptor alpha and adiponectin receptors 1 &2 were also evaluated.

Key Words:

arbitrary unit – cardiovascular - endothelial cells .

Dedicated to……

All my family for their love, sincere help and support

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List of abbreviations

AdipoR: adiponectin Receptor

ANP: atrial natrurtic peptide

AR: androgen receptor

A.U: arbitrary unit

CAD: coronary artery disase

CAMP: cyclic adenosine monophoshate

CMs: cardiac myocytes

CNS: central nervous system

CRP: C-reactive protein

CV: cardiovascular

CVD :cardiovascular diseases

DHEA: dihro-epiandrosterone-suphate

DHT : dihydrotestosterone

ECs : endothelial cells

ER α: estrogen receptor alpha

ER β : estrogen receptor beta

GABA: gamma aminobutyric acid

GPR : G -protein coupled receptor

H and E: hematoxlin and eosine

HDL: high density lipoproteins

hs-CRP: high sensitive C-reactive protein

ICAM: intercellular adhesion molecule

IL: interleukin

ILR : interleukin receptor

INF : interferon