

Alterations In Vascular Functions In Experimental Androgen Deprivation

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In Basic Medical Science (Physiology)**

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رسالة توطئة للحصول على درجة الدكتوراة فى العلوم الطبية الأساسية
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List of Abbreviations

5 α- R	5-alpha-reductase
ACh	Acetylcholine
AI	Atherogenic index
ALT	Alanine amino transferase
Ang II	Angiotensin II
APD	Action potential duration
APD₂₀	20% action potential duration
APD₉₀	90% action potential duration
At	Atria
ATP	Adenosine triphosphate
BCG	Baroreflex calculated gain
bpm	Beat per minute
BW	Body weight
CAT	Catalase
COX-2	Cyclooxygenase enzyme-2
CRP	C-reactive protein
DBP	Diastolic blood pressure
DHT	Dihydrotestosterone
DHT/ Total T	Dihydrotestosterone: total testosterone
DNA	Deoxyribonucleic acid

eNOS	Endothelial nitric oxide synthase
FAD	Flavin adenine dinucleotide
FBW	Final bodyweight
FBMI	Final body mass index
Free T	Free Testosterone
Free T/ Total T	Free testosterone: total testosterone
GPX	Glutathione peroxidase
H₂O₂	Hydrogen peroxide
HALO	Hours after light on
HDL	High density lipoproteins
HL	Hepatic lipase
HR	Heart rate
IBMI	Initial body mass index
IBW	Initial body weight
I_{KUR}	Ultra-rapid delayed K ⁺ rectifier current
K_v	Voltage gated K channels
LDL	Low density lipoproteins
LH	Luteinizing hormone
LHRH	Luteinizing hormone-releasing hormone
LV	Left ventricle
MABP	Mean blood pressure

MDA	Malondialdehyde
M_x	Maximum
Na₂ EDTA	Disodium ethylenediamine tetra acetate
NADPH	Nicotinamide adenine dinucleotide phosphate
NO	Nitric oxide
ORX	Orchiectomized
PE	Phenylephrine
PGE₂	Prostaglandin E ₂
PGF₂ α	Prostaglandin F ₂ α
PGI₂	Prostaglandin I ₂ (prostacyclin)
r	Correlation coefficients
ROS	Reactive oxygen species
RV	Right ventricle
SBP	Systolic blood pressure
SNP	Sodium nitroprusside
SOD	Superoxide dismutase
TC	Total cholesterol
TG	Triglycerides
Total T	Total testosterone
TXA₂	Thromboxane A ₂
U/L	Unit/ Liter
WH	Whole heart

Δ	Delta change
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Aims of the work

The present study was designed:

I- To investigate the mechanisms underlying vascular dysfunction in androgen-deprived state induced by orchidectomy. Vascular functions were studied invivo by assessment of the baroreceptor sensitivity and their responses to pressor and depressor agents. The vascular reactivity of isolated aortic rings in the orchidectomized rats were examined in vitro in order to determine their contractile and relaxant responses to vasoactive agents. Also, the aortic tissue nitrate, the metabolic end product of nitric oxide, as well as oxidant/ antioxidant status were assessed in the orchidectomized rats.

II- To shed light on the cardiovascular risk factors associated with androgen-deprived state induced by finasteride treatment, including determination of oxidant/antioxidant status and plasma lipid profile.