

Effect of Diabetes Mellitus on Quantitative Assessment of Peripapillary Retinal Nerve Fiber Layer Thickness

Thesis

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By

Assisstant Lecturer:

Mariam Ahmad Abdul-Moneim AL-Feky

MB. Bch, M.Sc., Ophthalmology
Faculty of Medicine, Ain Shams University

Supervised by

Prof. Dr.: Shaker Ahmed Soliman Khedr

Professor of Ophthalmology
Faculty of medicine, Ain-Shams University

**Prof. Dr.: Mamdouh Hamdy Mohammad
AL-Kafrawy**

Professor of Ophthalmology
Faculty of medicine, Ain-Shams University

**Prof. Dr.: Tamer Mohammad Fathi
EL-Mekkawi**

Professor of Ophthalmology
Faculty of medicine, Ain-Shams University

**Ophthalmic Department
Faculty of Medicine Ain Shams University
Cairo Egypt
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List of abbreviations

AAO	American Academy of ophthalmology
AGE	Advanced glycation end products
AMD	Age-related macular degeneration
ANOVA	Analysis of variance
AOS	American ophthalmological society
ARBs	Angiotensin receptor blockers
AT1-R	Angiotensin II type 1 receptor
AT2-R	Angiotensin II type 2 receptor
BAX	Bcl-2-associated X protein
BCAA	Branched chain amino acids
BCVA	Best corrected visual acuity
BDGF	Brain-derived growth factor
BDNF	Brain-derived neurotrophic factor
BM	Basal membrane
BRB	Blood retinal barrier
CCD	Charge-coupled device
C/D ratio	Cup/disc ratio
CI	confidence interval
Coef	Coefficient of correlation
CST	Cortistatin
DAG-PKC	Diacylglycerol-protein kinase C

List of abbreviations

DCCT	Diabetes Control and Complications Trial
DM	Diabetes Mellitus
DM1	Diabetes Mellitus type1
DM2	Diabetes Mellitus type2
DME	Diabetic macular edema
DNA	Deoxyriboneuclic acid
DR	Diabetic retinopathy
ECM	Extracellular matrix
EPC	Endothelial progenitor cells
ER	Endoplasmic reticulum
ERG	Electroretinogram
FEBS	Federation of European Biochemical Societies
FFA	Free fatty acids
FPG	Fasting plasma glycemia
GCL	Ganglion cell layer
Hb A1c	Hemoglobin A1c
Hcys	Homocysteine
Cirrus-HD	Cirrus-High definition
HDL	High-density lipoprotein
HLA	Human leucocytic angtigen

List of abbreviations

IGF-1	Insulin growth factor 1
INL	Inner nuclear layer
IPL	Inner plexiform layer
IR	Insulin receptor
IS	Inner segments
IRMA	Intraretinal microvascular abnormalities
LOX1	Oxidised LDL receptor 1
LDL	Low-density lipoprotein
LSD	Fisher's least significant difference
ME	Macular edema
n	Number
NF- κ B	nuclear factor kappa B
NGF	Nerve growth factor
NO	Nitric oxide
NMDA	N-methyl D-aspartate
NADH	Nicotinamide adenine dinucleotide
NADPH	Nicotinamide adenine dinucleotide phosphate
NPDR	Non-proliferative diabetic retinopathy
NT-3	Nneurotrophin-3
NT-4	Nneurotrophin-4

List of abbreviations

OCT	Optical coherence tomography
OGTT	Oral glucose tolerance test
ONH	Optic nerve head
ONL	Outer nuclear layer
OPL	Outer plexiform layer
OS	Outer segments
PDGF	Platelet derived growth factor
PDR	Proliferative diabetic retinopathy
PEDF	Platelet endothelium derived factor
PI3K	Phosphatidylinositol-3-kinase
PKC	Protein kinase C
POAG	Primary open angle glaucoma
PRP	Panretinal photocoagulation
RAGE	Receptor for advanced glycation end products
RAS	Renin-angiotensin system
RNFL	Retinal nerve fiber layer
ROS	Reactive oxygen species
RPE	Retinal pigment epithelium
RGC	Retinal ganglion cells
SD	Standard deviation

List of abbreviations

SDOCT	Spectral domain Optical coherence tomography
SE Coef	Standard error of coefficient of correlation
SLO	Scanning laser ophthalmoscope
SLP	Scanning laser polarimetry
SST	Somatostatin
SSTRs	Somatostatin receptors
TDOCT	Time domain Optical coherence tomography
TLR4	Toll-like receptor 4
TUNEL	Terminal nick-end labeling
UKPDS	United Kingdom Prospective Diabetes Study
VEGF	vascular endothelial-derived growth factor
WHO	World health organization

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Protocol