بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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Optical Coherence Tomography Angiography in Micro Pulsed Laser in Treatment of Diabetic Macular Edema

Thesis

Submitted for Partial Fulfillment of Master Degree in Ophthalmology

By

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List of Abbreviations

Abb.	Full term
BCVA	*Best Corrected Visual Acuity*
BRB	*Blood retinal barrier*
CME	*Cystoid Macular Edema*
CMT	*Central Macular Thickness*
CSME	*Clinically significant macular edema*
CSR	*Center serous retinopathy*
DCP	*Deep Capillary Plexus*
DME	*Diabetic macula edema*
DR	*Diabetic retinopathy*
ECF	*Extra cellular fluids*
ETDRS	*Early Treatment Diabetic Retinopathy Study*
FA	*Fluorescein angiography*
FAZ	*Fovea avascular zone*
FD-OCT	*Fourier Domain Optical Coherence Tomography*
FFA	*Fundus Fluorescein Angiography*
HDM	*High density micro pulse*
ILM	*Internal limiting membrane*
INL	*Inner nuclear layer*
IPL	*Inner plexifourm layer*
IRMA	*Intraretinal Microvascular Abnormality*
LogMAR	*Logarithm of Minimal Angle of Resolution*
MA	*Microaneuryzm*

List of Abbreviations *(Cont...)*

Abb.	Full term
MD	*Mean deviation*
MP	*Microperimetry*
MPL	*Micro pulselaser*
NPDR	*Non Proliferative diabetic retinopathy*
NVs	*Neovascularization*
OCT	*Optical Coherence Tomography*
OCTA	*Ocular Coherence Tomography Angiography*
PDR	*Proliferative diabetic retinopathy*
RPE	*Retinal Pigment Epithelium*
SCP	*Superficial Capillary Plexus*
SCP	*Superfacial capillary plexus*
SD-OCT	*Spectral Domain Optical Coherence Tomography*
SLO	*Scanning Laser Ophthalmoscope*
SS OCT	*Swept source Optical Coherence Tomography*
STMPYLT	*Sub threshold Micro Pulse Yellow Laser Treatment*
TD-OCT	*Time Domain Optical Coherence Tomography*
VA	*Visual Acuity*
VEGF	*Vascular endothelial growth factor*

INTRODUCTION

Diabetic retinopathy (DR) is the most common cause of vision loss in working aged individuals in developed countries. Diabetic macular edema (DME) is the main cause of decreased vision in DR ***(Bhagat et al., 2009).***

It was shown that the 10-year cumulative incidence of DME was 20.1% in patients with type 1 diabetes and 25.4% in patients with type 2 diabetes treated with insulin. The management of DME includes strict glycemic and blood pressure control. Argon laser treatment for clinically significant macular edema has been the mainstay treatment according to the Early Treatment Diabetic Retinopathy Study (ETDRS), which showed a 50% reduction in moderate visual loss following focal laser photocoagulation ***(Abouhussein, 2016).***

The conventional argon laser treatment is a photo thermal destructive therapy affecting the photoreceptor retinal pigment epithelium choriocapillaris complex. Possible side effects of conventional macular laser photocoagulation include preretinal and sub retinal fibrosis, choroidal neovascularization, scotomas, decreased color vision, and progressive expansion of the laser scars into the fovea ***(Othman et al., 2014).***

Therefore, a less invasive treatment strategy has been advocated to reduce the application of laser energy and avoid tissue damage. Healing response of the retinal pigment