A Comparative Study Between Vitrectomy with & without ILM Peeling for Tractional Diabetic Macular Edema as Regards Anatomical and Electrophysiological Changes of the Macula

Thesis

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List of Abbreviations

Abb.	Full term
µm	Micrometer
µV	Microvolts
AGEs	Glycation End Products
AL	Axial Length
ANG-2	Angiopoietin -2
BCVA	Best Corrected Visual Acuity
BMI	Body Mass Index
BRB	Blood Retinal Barrier
cd/m2	Candela Per Square Metre
CFT	Central Fovea Thickness
CSME	Clinically Significant Macular Edema
CW	Continuous Wave
D	Diopters
DCCT	Diabetes Control And Complications Trial
DM	Diabetes Mellitus
DME	Diabetic Macular Edema
DN	Diabetic Nephropathy
DR	Diabetic Retinopathy
ELM	External limiting membrance
ERG	Electroretinogram
ERM	Epiretinal Membrane
ETDRS	Early Treatment Diabetic Retinopathy Study

List of Abbreviations

Abb.	Full term
FDA	Food and Drug Administration
FFA	Fundus Fluorescein Angiography
GCC	Ganglion cell complex
HIF-1	Hypoxia Inducible Factor 1
IDF	International Diabetes Federation
IIM	Inferior inner macula
IL	Interleukin
ILM	Internal limiting membrane
IOM	Inferior outer macula.
IOP	Intraocular pressure
IRMA	Intraretinal Microvascular Abnormality
ISCEV	International Society of Electrophysiology of Vision
kOhm	Kilo Ohm
LALES	Los Angeles Latino Eye
LogMAR	Logarithm of the minimum angle resolution
MENA	Middle East and North Africa
mf-ERG	Multifocal ERG
Min	Minutes
mm	Millimeter
ms	Milliseconds
NIM	Nasal inner macula
nm	Nanometer
NOM	Nasal Outer Macula

List of Abbreviations

Abb.	Full term
NPDR	Nonproliferative Diabetic Retinopathy
nV	Nanovalt
nV/deg2	Nanovolt Per Degree Square
OCT	Optical coherence tomography
ONH	Optic nerve head
PDGF	Platelet-Derived Growth Factor
PDR	Proliferative Diabetic Retinopathy
PKC	Protein Kinase C
PPV	Pars Plana Vitrectomy
PVD	Posterior vitreous detachment
RD	Retinal detachment
RNFL	Retinal nerve fiber layer
RPE	Retinal pigment epithelium
RRD	Retinal Response Density
SD	Standard Deviation
SD-OCT	Spectral domain optical coherence tomography
SE	Spherical Equivalent
SIM	Superior inner macula
SOM	Superior outer macula
TD-OCT	Time domain optical coherence tomography
TGF-β	Transforming Growth Factor Beta
TIM	Temporal inner macula

List of Abbreviations

Abb.	Full term
TNF-α	Tumor Necrosis Factor-Alpha
TOM	Temporal outer macula
UK	United Kingdom
UKPDS	United Kingdom Prospective Diabetes Study
VEGF	Vascular Endothelial Growth Factor
VMA	Vitreo-Macular Adhesion
VMT	Vitreo-Macular Traction
VPF	Vascular Permeability Factor
VTDR	Vision-Threatening Diabetic Retinopathy
WESDR	Wisconsin Epidemiologic Study of Diabetic Retinopathy

ABSTRACT

Purpose of this study is to compare & evaluate the influence of Pars Plana Vitrectomy with or without internal limiting membrane (ILM) peeling, on the visual acuity, macular thickness using spectral-domain optical coherence tomography (SD-OCT) and macular function using multifocal electroretinograms (mf-ERG) in tractional diabetic macular edema.

Methods: in our prospective interventional case series 30 patients were included in our study. 15 patients did 23-gauge *Pars plana Vitrectomy with ILM peeling & 15 patients did* 23-gauge *Pars plana Vitrectomy without ILM peeling.*

Results: BCVA, CFT, other macular thicknesses together with multifocal parameters has improved after 23 gauge pars plana vitrectomy with or without ILM Peeling

Conclusion: BCVA, CFT, other macular thicknesses together with multifocal parameters could provide objective criteria for the structural and functional evaluation of DME before and after vitrectomy with or

without ILM peeling with no significant statistical difference between both groups

Key words:

ILM, SD-OCT, mf-ERG, BCVA, CFT