LIST OF ABBREVIATIONS

µm	Micrometer
3D	Three-dimensional
ANOVA	Analysis of variance
ART	Automatic real time
A-Scans	Axial Scans
BRM	Bruch membrane
CME	Cystoid macular edema
COV	Coefficient of variation
CSF	Central subfield
db	Decibels
DG	Diffraction grating
DSP	Digital signal processing
ELM	External limiting membrane
ETDRS	Early treatment diabetic retinopathy Study
FAZ	Fovea avascular zone
FD	Fourier-domain
GC	Ganglion cells
GCL	Ganglion cell layer
HEL	Henel's fiber layer
IIM	Inferior inner macula
ILM	Inner limiting membrane
INL	Inner nuclear layer
IOM	Inferior outer macula
IOP	Intra ocular pressure
IPLs	Inner plexiform layers
IRLs	Inner retinal layers
IS	Inner segment
IS/OS	Inner/outer segment junction
MIM	Mean inner macula
mm	millimeter

obeikandl.com

MOM	Mean outer macula
NF1	Neurofibromatosis type 1 factor
NFL	Nerve fiber layer
NIM	Nasal inner macula
NOM	Nasal outer macula
ONL	Outer nuclear layer
OPGS	Optic path ways gliomas
OPL	Outer plexiform layer
OS	Outer segment
PMA	Postmenstrual age
ROP	Retinopathy of prematurity
RPE	Retinal pigment epithelium
SD-OCT	Spectral domain optical coherence tomography
SIM	Superior inner macula
SLD	Super luminescent diode
SLO	Scanning laser ophthalmoscope
SOM	Superior outer macula
TD	Time domain
TIM	Temporal inner macula
TOM	Temporal outer macula
UHR-OCT	Ultrahigh-resolution Optical coherence tomography
VEGF	Vascular endothelial growth factor

obeikandl.com

LIST OF TABLES

Table		Page
(1)	Personal characteristics among the studied healthy Egyptian children.....	**21**
(2)	Macular measurements using optical coherence tomography among the studied healthy Egyptian children	**22**
(3)	Percentage of cases within±2SD from the mean macular thickness	**23**
(4)	Comparison of macular thickness measurements in the main regions of the ETDRS	**25**
(5)	Comparison between macular thickness measurements in different sectors of the inner macular ring.....	**26**
(6)	Comparison between macular thickness measurements in different sectors of the outer macular ring.....	**26**
(7)	Macular measurements using optical coherence tomography among the studied healthy Egyptian children in relation to their gender.....	**27**
(8)	Macular measurements using optical coherence tomography among the studied healthy Egyptian children in relation to laterality of eye.....	**29**
(9)	Macular measurements using optical coherence tomography among the studied healthy Egyptian children in relation to their age.....	**31**

openkanal.com

LIST OF FIGURES

Figure		Page
(1)	Three dimensional 3-D block of a portion of human retina	**2**
(2)	Anatomy of the retina	**4**
(3)	Light micrograph of a vertical section through human central retina	**5**
(4)	Light micrograph of a vertical section through human peripheral retina.	**5**
(5)	Enhanced fine structural detail in vivo of the macular layers by spectral domain OCT	**6**
(6)	Schematic presentation of an Optic interferometer (Michelsons interferometer)	**7**
(7)	Simplification of a spectral domain OCT setting	**8**
(8)	Examples of different image qualities obtained with the stratus and cirrus OCT	**8**
(9)	Demonstration of macular thickness segmentation algorithm by Spectralis OCT	**10**
(10)	The Spectralis OCT	**11**
(11)	Different volume scans for macular thickness measurement in the Spectralis OCT	**12**
(12)	OCT image of a healthy macula	**13**
(13)	Fundus photograph and OCT image of the right eye of a 4 years old girl with Coat's disease	**14**
(14)	Fundus photograph and OCT image of the left eye of an 8 years old boy with oculocutaneous albinism	**15**
(15)	OCT image of the right eye of a 9 years old boy with Best's disease.	**16**
(16)	Thickness profile by the Spectralis SD-OCT	**19**
(17)	Thickness map by the Spectralis SD-OCT	**19**
(18)	a) Depiction of the standard 9 ETDRS subfields. b) mean inner macula; mean outer macula	**20**
(19)	Mean and standard deviations of macular thickness (in micrometers) of each ETDRS sector in 50 healthy Egyptian children	**22**
(20)	Distribution curve and histogram of CSF	**23**
(21)	Distribution curve and histogram of MIM	**24**
(22)	Distribution curve and histogram of MOM	**24**
(23)	(a) Thickness map of the right eye of a 9 years old female. (b) Thickness map of the right eye of a 7 years old male	**28**
(24)	Thickness map of the right and left eye of a 12 years old female	**30**

obeikandl.com

Figure		Page
(25)	Mean and standard deviations of macular thickness (in micrometers) of each ETDRS sector in children with age group 6-<10	**32**
(26)	Mean and standard deviations of macular thickness (in micrometers) of each ETDRS sector in children with age group 10-<14	**32**
(27)	Mean and standard deviations of macular thickness (in micrometers) of each ETDRS sector in children with age group 14-16	**33**
(28)	Scatter graph for correlation between age (years) and CSF among the studied healthy Egyptian children	**34**
(29)	Scatter graph for correlation between age (years) and MIM among the studied healthy Egyptian children	**35**
(30)	Scatter graph for correlation between age (years) and MOM among the studied healthy Egyptian children	**35**

obeikandl.com