بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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قسم

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Evaluation of Retinal Toxicity by SD-OCT Due to Long-Term Exposure to Hydroxycholorquine among Rheumatoid Arthritis Patients

Thesis

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Master Degree in ***Ophthalmology***

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Hoda Mohammed Abu-bakr Abu-bakr

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List of Abbreviations

Abb.	Full term
AAO	*American Academy of Ophthalmology*
ABW	*Actual body weight*
AMD	*Age-related macular degeneration*
AO-cSLO	*Adaptive optics confocal scanning laser ophthalmoscopy*
BCVA	*Best corrected visual acuity*
BMI	*Body mass index*
CCD	*Charged-coupled device*
CMT	*Centeral macular thickness*
COST	*Cone outer segment tip*
COX	*Cyclooxygenase*
cpRNFL	*Corresponding circumpapillary retinal nerve fiber*
cpTR	*Circumpapillary total retinal*
CQ	*Chloroquine*
CYP	*Cytochrome P450*
DCGI	*Drug Controller General of India*
DCP	*Deep capillary plexuses*
DMARDs	*Disease-modifying antirheumatic drugs*
EDI-OCT	*Enhanced depth imaging optical coherent tomography*
ELM	*External limiting membrane*
ERG	*Electroretinogram*
ETDRS	*Early treatment diabetic retinopathy study*
EZ	*Ellipsoid zone*
FAF	*Fundus autofluorescence*
FAZ	*Foveal avascular zone*
FDA	*Food drug administration*
FFA	*Fundus fluorescein angiography*
FLS	*Fibroblast-like synoviocytes*
GCIPL	*Ganglion cell inner plexiform layer*
GCL	*Ganglion cell layer.*
GFR	*Glomerular filtration rate*

List of Abbreviations cont...

Abb.	Full term
HCQ	*Hydroxychloroquine*
HD-OCT	*High definition optical coherent tomography*
HEK	*Human embryonic kidney cells*
HLF	*Henle fiber layer*
HVF	*Humphrey visual field*
IBW	*Ideal body weight*
ICP	*Intermediate capillary plexuses*
ILM	*Internal limiting membrane*
INL	*Inner nuclear layer*
INL	*Inner nuclear layer*
IOP	*Intraocular Pressure Measurement*
IPM	*Interphotoreceptor matrix*
IRL	*Inner retinal layer*
IS/OS	*Inner segment \outer segment*
IZ	*Interdigitation zone*
mf-ERG	*Multifocal electroretinogram*
mGCC	*Macular ganglion cell complex*
mPGES1	*Microsomal prostaglandin E2 synthase 1*
mTR	*Macular total retinal*
MTX	*Methotrexate*
NAD	*No abnormality detected*
NIR	*Near-infrared reflectance*
OATP1A2	*Organic anion transporting polypeptide 1A2*
OCTA	*Optical coherent tomography angiography*
ONL	*Outer nuclear layer*
OPL	*Outer plexiform layer*
ORL	*Outer retinal layer*
PGE2	*Prostaglandin E2*
PR	*Projection resolved*
RA	*Rheumatoid arithitis*
RCO	*Royal Colleague of Ophthalmology*

List of Abbreviations cont...

Abb.	Full term
RGC	*Retinal gangilion cell*
ROS	*Rod outer segment*
RPCP	*Radial peripapillary capillary plexus*
RPE	*Retinal pigment epithelium*
RPE	*Retinal pigment epithelium*
SD	*Standard deviation*
SD-OCT	*Speceral domain optical coherence tomography*
SLE	*Systemic lupus erthromatosis*
SLO	*Scanning-laser ophthalmoscopy*
SVP	*Superficial vascular plexus*
T2DM	*Type2Diabetes milliteus*
TD-OCT	*Time domain optical coherence tomography*
TLRs	*Toll-like receptors*
TNF	*Tumor Necrosis Factor*
TR	*Total retina*
UCVA	*Uncorrected visual acuity*
UK	*United Kingdum*
US	*United state*
WHO	*World Health Organisation*

INTRODUCTION

Hydroxychloroquine is used increasingly in the management of a variety of autoimmune disorders, with well-established roles in dermatology and rheumatology and emerging roles in oncology. Hydroxychloroquine has demonstrated a survival benefit in patients with rheumatoid arthritis and systemic lupus erythematosus; some clinicians advocate its use in all such patients. However, Hydroxychloroquine and chloroquine (CQ) have been associated with irreversible visual loss due to retinal toxicity ***(Yusuf et al., 2017).***

The prevalence of retinopathy in the studies using less advanced methods as fundoscopy, visual acuity, Amsler grid, and/or color vision assessments, had an estimated risk of hydroxychloroquine retinopathy ranging from 0.4% to 1.9%. In the studies that used modern standard screening modalities, the prevalence of hydroxychloroquine retinopathy ranged from 1.6% to 8.0% and was 5.2–7.5% in patients who were treated with hydroxychloroquine for >5 years. ***(Eo et al., 2017)***

The prevalence of hydroxychloroquine retinopathy was 5.7-fold higher among patients whose average hydroxychloroquine daily dose was >5.0 mg/kg actual body weight (ABW) than in patients whose average daily dose was ≤5.0 mg/kg ABW ***(Melles and Marmor, 2014).***