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Thesis Title: Optical Coherence Tomography Angiography in Systemic Lupus erythematosus Patients on Hydroxychloroquine.

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ABSTRACT

Background: Hydroxychloroquine (HCQ) is widely used in the treatment of Systemic lupus erythematosus (SLE). HCQ retinopathy is a well-documented side effect of HCQ which could be investigated by optical coherence tomography angiography (OCTA).

Methods: This study included right eyes of **90** SLE patients divided into three groups. Group 1 is 30 patients who aren't receiving HCQ. Group 2 is 30 patients who received HCQ for less than 2 years. Group 3 is 30 patients who received HCQ for more than 2 years. OCTA was performed to all patients using (Optovue, Inc., Fremont, CA, USA).

Results: There was no statistical significant difference with p-value >0.05 between study groups regarding macular superficial vascular density, deep vascular density, thickness and FAZ. There was a statistical significant negative correlation with p-value <0.05 between HCQ treatment duration and superficial vascular density in (whole image, superior hemi, and Inferior hemi), and with Perifovea (Perifovea, superior hemi, and Inferior hemi). There was a statistical significant negative correlation with p-value <0.05 between HCQ treatment duration and whole image, superior hemi, and Inferior hemi measures, and all parafovea, and Perifovea measures of deep Vascular Plexus Density. There was no statistical significant correlation with p-value >0.05 between HCQ treatment duration and macular thickness, best corrected visual acuity and FAZ.

Conclusion: OCTA is a non-invasive method that could be of value to quantitatively assess the microvascular changes in SLE patients on HCQ therapy.