

Thesis Title	The Effect of Atorvastatin on Macular Pigment Optical Density (MPOD)
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ABSTRACT

Serum lipoproteins such as LDL and HDL cholesterol are part of the transport mechanism of lutein and zeaxanthin to the retina to serve as macular pigment. Macular pigment optical density is one of the best indicators of retinal disease such as age-related macular degeneration. Thus, this study intends to investigate the effect of Atorvastatin used in treating hypercholesterolemia on macular pigment value. This is a cross-sectional analytical study. Forty-four patients of Asian male and female, within 30-60 years of age, residing in Thailand are divided into two equal groups. The patients taking Atorvastatin 10mg for at least 6 months are placed in the study group and compared with the normal patients who are not taking medication. The macular Pigment density of each group is measured using Macular Pigment Screener II. All participants are required to sign the informed consent and complete the questionnaire regarding various factors that may influence the MPOD value. The mean MPOD of the study group who are taking Atorvastatin 10mg for at least 6 months is 0.3295 ± 0.1311 d.u. and the mean MPOD of the normal control group is 0.4686 ± 0.1491 d.u. The results showed that the mean MPOD of the study group is significantly lower than the

control group ($p = 0.002$). In conclusion, the patients taking Atorvastatin have lower MPOD value than normal people.

Keywords: Macular Pigment Optical Density, Hypercholesterolemia, LDL Cholesterol, HMG CoA Reductase Inhibitor, Atorvastatin

