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Posterior Pole Asymmetry Analysis in the Children with Anisometropia

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Abstract

Objectives: *The objectives of the study were to investigate the inter and intraocular differences in posterior pole asymmetry analysis (PPAA) with optical coherence tomography (OCT) in anisometropia, to examine the relationship between the presence of anisometropia and amblyopia and retinal thickness.*

Methods: *Patients between ages of 5 and 16 years with anisometropia who applied to our clinic were included in the study. Macular retinal thickness measurements were evaluated by PPAA using the posterior pole algorithm of the spectral domain-OCT device. Asymmetry was analyzed both as the difference between the right and left eyes and the difference between the superior, inferior, and mean retinal thicknesses of 64 separate quadrants in the same eye. Hemispheric and right-left eye asymmetry differences analyses were performed.*

Results: *118 patients were included in the study(65 females and 53 males). Group 1 consisted of anisometropic patients (n=46), Group 2 consisted of anisometropic amblyopia patients (n=40), and Group 3 consisted of control group (n=32). The mean age of the patients was 9.72±5.6 years. The mean spherical equivalent difference between the two eyes of the patients was 1.7±0.6 D. When anisometropic eyes were compared with normal eyes, there was no significant difference between mean superior, inferior and total retinal thickness, and right-left eye asymmetry values (for all, p>0.05). In the asymmetry evaluation performed by counting the black boxes in the PPAA, a significant difference was found in the rightleft asymmetry evaluation in anisometropic amblyopic eyes, in some quadrants and in the right-left asymmetry analysis (p<0.05).*

Conclusion*: While no difference was found between anisometropic and normal eyes in the PPAA, there was differences in some quadrants in the anisometropic amblyopic group compared to the control group suggesting that there is an involvement in the peripheral quadrants of the macula, especially in treatment resistant amblyopic patients.*

Author Keywords

Anisometropia, Childhood, Optic coherence tomography, Posterior pole analysis

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