

THE OPTICAL COHERENCE TOMOGRAPHY ANALYSIS OF THE INNER RETINAL LAYERS IN CHILDREN

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Purpose: The aim of this study is to determine a correlation between the optic nerve head (ONH) area, the peripapillary nerve fiber layer (pRNFL) and the ganglion cell inner plexiform layer (GCIPL) thicknesses, measured by optical coherence tomography (OCT) in children.

Methods: Cross-sectional study of 358 eyes in 358 children, 187 belonging to male (52.2%), having a mean age 6.41 ± 1.66 years and spherical equivalent 0.22 ± 0.50 D. Optic nerve head (ONH) parameters, pRNFL and macula thicknesses maps for each subject were obtained with Cirrus HD-OCT.

Results: Average pRNFL thickness was 100.19 ± 10.10 μ m and average GCIPL thickness was 85.29 ± 5.54 μ m. Thirty-eight eyes (10.6%) had megalopapilla. A positive correlation was found between pRNFL thickness and ONH area, GCIPL thickness and ONH area; and between pRNFL and GCIPL thicknesses.

Conclusions: In children, as the ONH area increases, the pRNFL and GCIPL thicknesses measured by OCT increases, supporting the histological observations that found large discs to have a higher number of ganglion cells. Consequently, the fixed diameter of the OCT scan does not influence these measurements.

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