RNFL THICKNESS IN THE EYES OF HEALTHY BULGARIAN CHILDREN USING SD-OCT

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Purpose: To collect a normative database of retinal nerve fiber layer (RNFL) thickness in healthy Bulgarian children aged 5 to 18 years using spectral domain optical coherence tomography (SD-OCT) measurements. Material and methods: The scans were obtained from 82 eyes of 47 children (20 boys and 27 girls). Each child had dilated eye examination and OCT measurements using Topcon 3D OCT 2000+ (Topcon Corporation, Japan) and protocols - 3D Disc and Circle. The statistical analysis was done by SPSS for Windows (USA, Chicago, SPSS Inc., Ver. 16.0) and the level of statistical significance was set at p0.05. Results: Mean peripapillary RNFL thickness in 3D Disc protocol was 105.83±7.85 μm, and in Circle protocol - 112.34±8.83 μm. The difference in the two protocols was found to be statistically significant. Negative correlation was established between age and RNFL thickness. Significant differences in RNFL thickness between two genders were found in only two parameters in Circle protocol. No significant difference in RNFL thickness between right and left eye was established. Conclusion: This study documents normative values for RNFL thickness in healthy Bulgarian children. These data make possible the evaluation and interpretation of RNFL thickness and thus could be valuable in early glaucoma detection. Key words: optical coherence tomography, retinal nerve fiber layer thickness, children, glaucoma, Topcon 3D OCT.