

## Abstracts

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### Sehnerv und visuelles System, Diagnostik und Bildgebung // Optic nerve and visual system, diagnostics and imaging

Do10-01

#### Can the Lamina Cribrosa of Sclera Perform as a Biomarker for Diagnosing Optic Neuropathy?

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**Objectives:** To study the lamina cribrosa (LC) of sclera as a potential biomarker in the diagnosis of optic neuropathy.

**Methods:** Using spectral optical coherence tomography (OCT) of the optic disc (OD) a comparative assessment of LC was performed on 79 eyes of patients in three groups: I–axial myopia (36), II–primary open-angle glaucoma (POAG) (27), III–control without ocular pathology (16). The LC depth, LC thickness and prelaminar zone, the prelaminar retinoschisis; relief of LC surfaces; the thickness of choroid and retinal nerve fibre layer (RNFL) were evaluated. The data was statistically approved, Pearson and Spearman correlation coefficients, the Kruskal-Wallis and Mann-Whitney tests were used.

**Results:** An axial length growth of more than 26.3 mm in 36.11% of myopic eyes was accompanied by a tendency to increase reflectivity in the LC centre, perivascularly, as well as a drop in the thickness of the choroid, prelaminar zone and the formation of a gamma zone of peripapillary atrophy. OCT qualitative changes in the LC biomechanical features and disorganization of its structure (uneven porosity, hyporeflective defects), as well as deformation of the LC surfaces (in particular, prominence backwards of the LC posterior contour in 33.3%), the expressed prelaminar retinoschisis were determined in POAG, in addition to LC morphometric changes (reduction in LC thickness and increase in its depth, along with the lowering choroid and RNFL thickness). In the group of eyes with glaucoma combined with high myopia, LC changes correlated with a progressive increase in the diameter of the BM opening to result in reduction in the prelaminar zone thickness and the appearance of LC focal defects due to choriocapillaris deficiency. The age-related tendency to LC remodelling with superficial location of the LC and disorganization of LC structure and deformation of its anterior surface in all groups was revealed.

**Conclusions:** The identified pathognomonic patterns and morphometric characteristics of the LC in pathologic myopia and glaucoma reflect their pathogenesis, can be useful as OCT markers in the differential diagnosis of optical neuropathies, and LC visualization is recommended to be included in the OCT of OD protocol.

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