GLAUCOMA 08:30 | 10:45 SALA LIRA

Mesa: Maria Reina, José António Dias, Joaquim Sequeira

10:08

CL94- INFLUENCE OF INTRAOCULAR PRESSURE IN ANTERIOR LAMINA CRIBROSA DEPTH – A PROSPECTIVE OBSERVATIONAL STUDY IN A HEALTHY PORTUGUESE POPULATION

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Introduction: The study of the optic nerve head (ONH) characteristics is of major importance to better understand the mechanisms behind axonal injury in glaucoma and to improve disease prevention, diagnostic accuracy and therapeutic decisions. Our aim was to investigate the association between anterior lamina cribrosa depth (ALCD), determined with enhanced depth imaging spectral-domain optical coherence tomography (EDI-OCT), and intraocular pressure (IOP) in a healthy Portuguese population.

Materials and Methods: Prospective observational study conducted between January and July 2015 of 59 healthy subjects. Two optic nerve head (ONH)-centered EDI-OCT cross-scans were performed and ALCD was defined as the perpendicular distance between the line connecting both edges of Bruch's membrane and the anterior border of the lamina cribrosa, at the maximum depth point. Bruch´s membrane plane was automatically computed by EDI-OCT built-in algorithm. Then, an experienced masked-operator manually segmented ALCD twice, with 1-month interval, and a mean of the two blinded measurements was used. To guarantee observations' independence, only the left eyes were considered. Only high-quality images were accepted.

Results: Studied population included 59 subjects (35 women), with a mean age of 61.7 ± 15.1 years. Mean vertical and horizontal maximum ALCD was 444.5 ± 92.2 µm and 427.6 ± 82.7 µm, respectively. Neither gender nor age were associated with these ALCD scans ($p > 0.05$). When controlling for gender, age and spherical equivalent, maximum vertical and horizontal ALCD increased, respectively, by 8.49µm (95% confidence interval [CI], 2.66-14.33 µm; $p = 0.005$) and 8.26µm (95% CI, 2.65-13.87 µm; $p = 0.005$) per mmHg increase in IOP.

Conclusions: Our sample of healthy subjects presented a statistically significant positive correlation between IOP and ALCD, when controlling for possible confounding factors. These results may trigger further studies to better elucidate the IOP role in morphological and functional dynamics of the ONH.