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Service (sector) Glaucoma N° CEP

## **HYALURONIC ACID CONCENTRATION IN AQUEOUS HUMOR OF GLAUCOMATOUS AND NON-GLAUCOMATOUS PATIENTS**

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Purpose: To compare the hyaluronic acid (HA) concentration in aqueous humor of primary open-angle glaucoma (POAG) and non-glaucomatous individuals. Methods: Aqueous humor samples were obtained from 22 individuals just before cataract surgery (non-glaucomatous group). Aqueous humor ( 0.1 ml ) was aspirated by inserting a 25-gauge needle into the anterior chamber. The same procedure was performed for 22 glaucoma patients just before trabeculectomy for uncontrolled or advanced glaucomas (POAG group). Immediately after collection, the material was stored at  $-20^{\circ}$  C until analysis. HA concentration was determined by a recently developed ultrasensitive, noncompetitive and nonisotopic fluoroassay. Results: The mean concentrations of HA of the non-glaucomatous and POAG groups were  $612.2 \pm 460.9$   $\mu$ g/L and  $321.0 \pm 164.6$   $\mu$ g/L, respectively. The difference in HA concentrations between the groups was statistically significant ( $p < 0.001$ ). Conclusion: These results suggest that HA is decreased in aqueous humor of POAG patients and an abnormal metabolism of HA ( decreased synthesis or increased turnover ) may have a role in the increased outflow resistance found in these patients.