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Lipid Profile of Tenon's Capsule In Glaucoma Patients

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Abstract

Purpose: To provide data on the lipid profile of the Tenon's capsule in Human glaucomatous eyes and to establish possible relationships with the short term outcome of filtration surgery.

Methods: Fragments of Tenon's capsule were collected during glaucoma surgery in patients suffering from open angle glaucoma (10 trabeculectomies and 17 non penetrating deep sclerectomies). The polyunsaturated fatty acid (PUFA) composition of the human samples was determined by gas chromatography. A successful outcome after glaucoma surgery was defined by an intraocular pressure (IOP) ≤ 15 mmHg at 6 months without any IOP-lowering agent.

Results: We included 27 patients (12 males, 15 females) with a mean age of 65.5 ± 12.1 years. Twenty three surgeries were successful according to our criteria. The IOP before and 6 months after the surgery was 20.8 ± 7.1 mm Hg, range [13-37] and 11.7 ± 3.2 mmHg, range [6-18] respectively. The percentages of the main PUFAs were as follows: arachidonic acid $5.33 \pm 3.66\%$, docosaexaenoic acid $0.88 \pm 0.62\%$, total $\omega 3$ $1.86 \pm 1.05\%$, total $\omega 6$ $18.97 \pm 5.94\%$, $\omega 6/\omega 3$ ratio $11.86 \pm 3.95\%$. We did not find any statistically significant correlation between PUFAs content of Tenon's capsule, IOP at 6 months, delta IOP and surgical outcome.

Conclusions: Fatty acid composition of Tenon's capsule was highly variable among patients. In this small series we failed to identify a specific PUFA profile of Tenon's capsule as a risk factor for failure of glaucoma surgery.

Keywords: anterior segment • lipids • clinical (human) or epidemiologic studies: outcomes/complications