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Lipid profile of Tenon’s capsule in glaucoma patients
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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 lipid profile of the human samples was determined by gas chromatography. A successful outcome after glaucoma surgery was defined by an intraocular pressure (IOP) \( \leq 15 \) 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 percentages of the main fatty acids were as follows (Mean, STD, Range) Arachidonic acid 5.33 3.66 1.00-14.80; Docosahexaenoic acid 0.88 0.62 0.28-2.56; Omega 3 1.86 1.05 0.55-4.19; Omega 6 18.97 5.94 11.64-32.89; Omega 6 / Omega 3 11.86 3.95 6.99-23.73. The IOP before and 6 months after the surgery was 20.8 ± 7.1 mmHg, range [13-37] and 11.7 ± 3.2 mmHg, range [6-18] respectively. 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.