

Rates of glaucomatous visual field change after trabeculectomy

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BACKGROUND: Trabeculectomy is frequently performed in patients with glaucoma who are deteriorating, although its effects on rates of visual field (VF) progression are not fully understood. We studied the rate of VF progression post trabeculectomy comparing with medically treated patients matched for VF loss.

METHODS: Medical records of patients who underwent trabeculectomy alone or combined with cataract extraction were reviewed. Patients with 5 or more 24-2 VF examinations post trabeculectomy were selected. The rate of mean deviation (MD) change after surgery was calculated for each patient. These patients were pairwise matched based on baseline MD with patients with glaucoma who were treated medically and had at least 5 VF tests.

RESULTS: 180 surgical patients were identified and matched with 180 medically treated patients (baseline MD of -8.72 (5.24) dB and -8.71 (5.22) dB, respectively) . Surgically and medically treated patients were followed for 7.4 (2.9) and 6.8 (3.1) years respectively. The MD slopes were -0.22 (0.55) dB/year and -0.08 (1.10) dB/year in the surgically and medically treated patients, respectively, and not statistically different ($p=0.13$, 95% CI -0.31 to 0.04) . More patients in the surgical group had fast progression (rates worse than -1 dB/year) than in the medical group (17 and 7 patients, respectively, $p=0.05$) .

CONCLUSIONS: Our findings suggest that most patients who undergo trabeculectomy demonstrate relatively slow rates of VF progression postoperatively, similar to patients treated medically, although some patients can continue to progress despite adequate surgical control of intraocular pressure.

Br J Ophthalmol. 2017 Jul;101(7) :874-878. doi: 10.1136/bjophthalmol-2016-308948. Epub 2016 Nov 3.

PMID: 27811280

<http://www.ncbi.nlm.nih.gov/pubmed/27811280>