



Non-penetrating glaucoma surgery for advanced open-angle glaucoma

David Wong¹

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NICE guidelines (November 2017) recommend that patients with advanced chronic open-angle glaucoma should be offered surgery with augmentation as indicated. The guidelines stress the need to offer information on the risks and benefits of surgery [1]. Such information depends of course on the nature of surgery. Eldaly et al. undertook a Cochrane Database Systematic Reviews in 2014 comparing non-penetrating filtration surgery with trabeculectomy for open-angle glaucoma [2]. The authors concluded that there was some limited evidence that control of IOP is better with trabeculectomy than viscocanalostomy. Therefore, some might think that advanced glaucoma should only be treated with penetrating glaucoma surgery. On the other hand, systematic review and meta-analysis also showed that trabeculectomy was associated with a higher incidence of complications compared to non-penetrating surgery [3]. Such complications include hypotony, choroidal effusion, cataract, and flat or shallow anterior chamber and importantly sudden and further visual loss or “wipe out.” What evidence do we have of the safety and efficacy of non-penetrating surgery for advanced open-angle glaucoma?

In this issue, we have two complementary papers on non-penetrating glaucoma surgery for advanced glaucoma. Tsagakataki et al. reported on viscocanalostomy and phacoviscocanalostomy for advanced glaucoma. Leleu et al. reported on the central 10° visual field change following non-penetrating deep sclerectomy in severe and end-stage glaucoma. The first study from Liverpool was remarkable in that it involved 133 patients, probably the largest number of patients with the longest follow-up of up to 3 years. The authors found that viscocanalostomy and phacoviscocanalostomy were able

to achieve an IOP ≤ 21 mmHg in 80% (3 years) to 95% (1 year) patients with a 35–39% drop in IOP from baseline with a good safety profile. The second study showed that 28 (82%) eyes had an IOP < 21 mmHg and 19 (56%) an IOP < 16 mmHg. The MD 10-2 remained stable (-19.8 ± 7.4 to -19.4 ± 8.1 dB, non-significant improvement of $+0.4$ dB, $P = 0.1$). As with most series, the deep sclerectomy involved augmentation with mitomycin in all cases, collagen implant in some and in the postoperative period additional measures such as goniotomy, needling, and iridoplasty. The authors focused on visual complications and stressed that there were no “wipe out” of the visual field, which had been a main concern for penetrating glaucoma surgery in advanced glaucoma [4–6].

Potentially, these two papers might influence the way we treat glaucoma cases with severe visual field loss, that is with earlier surgical rather than medical intervention, with non-penetrating rather than with trabeculectomies.

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✉ David Wong
shdwong@gmail.com

¹ Department of Eye and Visual Science, University of Liverpool, Liverpool, England