Primary deep sclerectomy augmented with bevacizumab: a comparative case control study
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Purpose: To assess the comparative efficacy and safety of enhancing primary phakic deep sclerectomy (DS) with subconjunctival bevacizumab or intraoperative mitomycin C application.

Methods: Retrospective comparative case-control study. To avoid selection bias only consecutive primary phakic deep sclerectomies between January 2008 and December 2010 with a minimum follow-up of 12 months were included (53 eyes). Mitomycin C (MMC) 0.2 mg/dl was applied for 2 minutes under the conjunctiva after dissection of the superficial scleral flap (27 eyes). Bevacizumab 0.1 ml (2.5 mg) was injected subconjunctivally at the surgical site after completion of the procedure (26 eyes). Postoperative management was similar in the two groups and consisted of topical steroids every two hours for 6-8 weeks. Intraocular pressure (IOP) changes after DS were compared with ANOVA for repeated measures and survival curves were calculated for every group.

Results: Complete success for survival curves was maintenance of intraocular pressure less than 18 mmHg and a 20% decrease from preoperative levels and no postoperative goniopuncture or medications: it was 80% at 6 months and 70% at 12 months in bevacizumab group, and 70% at 6 months and 67% at 12 months in MMC group. Partial success was an intraocular pressure less than 18 mmHg and a 20% decrease with or without goniopuncture or medications: it was 86% at 6 months and 83% at 12 months in bevacizumab group and 80% and 77% in MMC group at 6 and 12 months respectively. Mean follow-up was 18.7 ± 2.8 months in bevacizumab group and 23.2 ± 5.3 months in MMC group. At 12 months 4 patients in bevacizumab group and 3 in MMC group needed a laser goniopuncture; in 1 patient in bevacizumab group and in 1 patient in MMC group an argon iridoplasty was performed. Needling with 5-fluorouracil was performed in 3 patients in the MMC group. A trabeculectomy was performed in 1 patient in the MMC group. 3 patients in the bevacizumab group and 1 in the MMC group required glaucoma medications.

Conclusions: Augmentation of primary deep sclerectomy with a single intraoperative subconjunctival injection of bevacizumab may be as effective in lowering intraocular pressure as intraoperative mitomycin augmentation.