NONPENETRATING DEEP SCLERECTOMY WITH VISCOCANALOSTOMY VERSUS TRABECULECTOMY IN PRIMARY OPEN-ANGLE GLAUCOMA

P. Tein
Tallinn Eye Clinic, Tallinn, Estonia

PURPOSE: To compare outcomes, efficacy and safety of nonpenetrating deep sclerectomy (NPDS) with viscocanalostomy versus trabeculectomy in primary open-angle glaucoma.

METHODS: NPDS was performed in 46 eyes of 42 patients with medically uncontrolled primary open angle glaucoma. MMC application under the conjunctiva and superficial scleral flap was performed. Trabeculectomy (Trab) was performed in 52 eyes of 44 patients. Visual acuity, intraocular pressure (IOP), slit lamp examinations, glaucoma medications and complications were recorded preoperatively and 1 day, 1 week and 1, 3, 6, 12, 18 and 24 months postoperatively.

RESULTS: The mean follow-up period was 2.3 years. Preoperative IOP of NPDS was 24.9 mmHg and of Trab 33.2 mmHg; the mean postoperative IOP of NPDS was 8.2 mmHg and of Trab 9.8 mmHg on the first day; 15.7 mmHg (NPDS) and 16.4 mmHg (Trab) 12 months later; 13.9 mmHg (NPDS) and 14.3 mmHg (Trab) 18 months later and 15.8 mmHg (NPDS) and 15.1 mmHg (Trab) 24 months later. Visual acuity remained stable in NPDS, but decreased in trabeculectomy. Goniopuncture was performed on 25 eyes and no complications for NPDS. Hyphema, shallow anterior chamber, fibrin exudation, choroidal detachment or bleb-related complications occurred in trabeculectomy. 10 eyes in NPDS and 32 eyes in Trab needed additional glaucoma medications.

CONCLUSIONS: NPDS with viscocanalostomy and trabeculectomy both significantly decrease IOP. NPDS provides reasonable control of IOP with few postoperative complications and need for additional medication compared to trabeculectomy. NPDS is associated with lower rates of hypotony, hyphaema, shallow anterior chamber, choroidal detachment or leakage and surgically-induced cataract.