Long Term Results Of Viscotrabeculotomy In Congenital Glaucoma: Comparison To Classical Trabeculotomy

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Management of congenital glaucoma is surgical and current classical procedures in congenital glaucoma include goniotomy, trabeculotomy ab externo and trabeculectomy. To increase the success rate of trabeculotomy, some modifications such as combined trabeculotomy-trabeculectomy and trabeculotomy with newly designed probes were applied. The authors considered the use of viscoelastics during trabeculotomy, and named this modified technique viscotrabeculotomy.

The purpose of the study was to evaluate the outcomes of viscotrabeculotomy and classical trabeculotomy, and to compare these two techniques. 64 patients with primary congenital glaucoma who presented at Istanbul University Cerrahpasa, Turkey before the age of 12 months were divided into two groups. Group 1 consisted of 58 eyes of 34 patients who underwent viscotrabeculotomy, and group 2 consisted of 51 eyes of 30 patients who underwent classical trabeculotomy. Pre- and postoperative IOPs, mean antiglaucoma medication, mean corneal diameter, success rates, intra- and postoperative complications were compared between two groups.

Classical trabeculotomy was performed as described by Allen and Burian. In viscotrabeculotomy, the Schlemm canal was cannulated on either side and high –viscosity sodium hyaluronate was injected into the Schleems canal. Trabeculotome was passed into the canal; the tip of the probe was gently rotated into the anterior chamber. The probe was removed and repeated in the opposite direction. Sodium hyaluronate was injected into the anterior chamber, if a shallow anterior chamber developed, then a small amount was injected to prevent adhesion of incision lips.

Complete surgical success was determined by an IOP <18 mm Hg under general anaesthesia without medication or resurgery, with no progression of disc cupping or corneal diameter and with no devastating visual complications. Failure was defined as IOP >/= 18mm Hg in patients with medication, resurgery or sight –threatening complications. Postoperatively, the mean IOPs and antiglaucoma medications were significantly lower in group 1. The percentage of mean reduction in IOP from baseline to the last follow-up was 47% in group 1 and 42.1% in group 2. At the last visits, the success rate of group 1 was statistically higher when compared with group 2. 10 eyes in group 1 and 18 eyes in group 2 required antiglaucoma medications to control IOP. Additional surgery was performed in five eyes in group 1 and 13 eyes in group 2. During surgery, only one eye with severe bleeding and iridodialysis in group 2 required injection of viscoelastic into the anterior chamber.

The disadvantage of viscoelastic material is that when left in anterior chamber, they cause a temporary IOP elevation. Viscoelastic materials remain in the canal...
for 4-6 days, prevent collapse of the Schlemm canal and create a barrier to the migration of fibrinogen released by the ciliary body during surgery.

The success rate of classical trabeculotomy at the last visit was 68.6 % and 91.3 % for viscotrabeculotomy, and the difference between two groups was statistically significant. The most common early postoperative complication was transient IOP elevation in group1, the incidence of hyphema in group1 was only 6.8 % - these low rate of hyphema may only be explained by using viscoelastic materials.

In conclusion, the authors say that viscotrabeculotomy is safer and more effective than classical trabeculotomy. Intra and postoperative complications are very rare. Dilation of the possible narrow Schlemm canal, keeping away the lips of trabeculotomy incision, possibly prevention of the postoperative haemorrhage and fibroblastic proliferation by means of high-viscosity sodium hyaluronate are the possible factors that play important roles in the overall success of the procedure.

Capsular Block Syndrome After Cataract Surgery: Clinical Analysis And Classification

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Capsular block syndrome (CBS) is a rare complication. It is characterized by distension of capsular bag and accumulation of a liquefied substance inside the capsular bag. Slitlamp biomicroscopic examination shows forward displacement of the intraocular lens optic. Patients have a myopic shift, anterior displacement of iris-lens diaphragm, and increased IOP. This study conducted at Kyungpook National University Hospital, Republic of Korea evaluated the clinical characteristics and risk factors for postoperative CBS. They reviewed the clinical records of 1100 patients who had undergone phacoemulsification and PCIOL implantation, and evaluated 8 cases of postoperative CBS. They suggest a new classification of postoperative CBS according to its pathogenic mechanisms. This study did not include cases of intraoperative capsular block. Longer axial length (>/=25 mm) was a significant risk factor for the development of postoperative CBS. Although the OVD used intraoperatively was not a risk factor, the type of PCIOL, had a significant influence on the development of the syndrome. In particular, postoperative CBS is more prevalent in eyes with a 4-haptic IOL than in eyes with a modified C-loop IOL. Former lens is not posteriorly angulated, it results in relatively larger contact area between the IOL and the anterior capsule than with other PCIOLs.

The CBS was classified into 3 groups based on distinct clinical characteristics. The groups were noncellular CBS, inflammatory CBS, and fibrotic CBS. Noncellular CBS was characterized by a distended capsular bag within a day to several days after surgery (very early postoperative period). These cases have few cellular reactions and fibrotic adhesion between IOL and anterior capsule. Retained OVDs play a major role in the pathogenesis. Treatment includes disruption of capsular bag or aspiration of retained OVDs. Inflammatory CBS developed several days after surgery (early postoperative period). They did not have retained substance on the first postoperative day. They have a cellular reaction around the anterior capsule margin and the IOL optic was attached to the overlying anterior capsule. A distended capsular bag subsequently developed. In this case distended capsular bag can be deflated by anti-inflammatory medication without any surgical trial. Fibrotic CBS occurred in the late postoperative period (several months to years after surgery). It was characterized by fibrosis over the entire circumference of the anterior capsule opening. Main cause of this condition is the proliferation and metaplasia of LECs, which produces numerous types of collagen and extracellular matrix that accumulate in the bag. This type was treated by Nd:Yag laser posterior capsulotomy.
Efficacy of Intravitreal Bevacizumab in Treating Postoperative Pseudophakic Cystoid Macular Oedema

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Postoperative pseudophakic cystoid macular oedema (CME) is one of the main causes of suboptimal visual acuity after cataract surgery. The goal of any treatment is to reduce macular oedema, however there is no widely accepted technique to treat chronic macular edema. Recently, Mason et al reported 2 patients with persistent CME who had been successfully treated with a single intravitreal injection of 1.0 mg bevacizumab. This analysis of a small interventional case series was designed as an exploratory investigation of an intravitreal treatment to test short-term safety and effectiveness in patients with postoperative CME. This retrospective case series conducted at University Eye Clinic Tuebingen, Eberhard-Karls University, Germany comprised 16 eyes of 16 patients with CME after cataract surgery refractory to current standard treatment who received an injection 1.25 mg intravitreal Avastin. The main outcome measures were visual outcome, retinal thickness on OCT, and complications related to treatment.

The mean duration of CME before treatment with intravitreal Avastin was 14 wks. Although the mean retinal thickness decreased slightly after intravitreal Avastin, the mean visual acuity remained unchanged. Visual acuity improved by 2 lines in 1 patient, remained unchanged in 12 patients, and decreased by 2 lines in 2 patients. Repeated Avastin injections did not result in a better outcome. Other than mild ocular irritation, there were no adverse effects of the intravitreal injections. They concluded that intravitreal Avastin, although safe, did not result in improved visual function in patients with postoperative CME. In contrast to findings in a previous case report, the beneficial effect of vascular endothelial growth inhibition in Irvine-Gass syndrome was negligible with respect to improvement in visual function.

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