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## Ahmed glaucoma valve explantation: Evaluation of the cases and outcomes

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**Purpose:** To report the complications necessitating Ahmed glaucoma valve (AGV) explantation.

**Methods:** The study comprises the medical records of 11 patients who underwent AGV removal. Indication for placement, AGV model, age at time of surgery, gender, diagnosis, and intraocular pressure (IOP) values before and after AGV implantation, surgeries before AGV implantation, duration with AGV, reason for explantation, repairing attempts prior explantation, medications and outcomes without implant of patients were collected.

**Results:** One hundred and eighty one eyes received AGV and eleven of them (6.07%) underwent explantation between April 2002 and January 2016. Single-layer pericardial patch graft was used for all during the implantation. The reason of the AGV explantation in all was spontaneous tube exposure except two eyes who diagnosed endophthalmitis and traumatic tube exposure. The mean IOP was  $33.36 \pm 8.25$  and  $14.45 \pm 6.26$  mmHg before and one month after the AGV implantation, respectively. The surgical success rate was 54.5%. The mean time with AGV was  $40.13 \pm 40.10$  (range: 4-108) months in all cases. The mean IOP was  $13.27 \pm 6.77$  mmHg just before the explantation and  $26.09 \pm 12.24$  mmHg one month after the explantation with the mean  $3.18 \pm 1.78$  medication. Conjunctival repairing was attempted in three patients, but they need explantation in two weeks because of recurrent tube erosion.

**Conclusions:** This is the most comprehensive study about AGV explantation, since 11 subjects have been reported as first. Actually, tube exposure which may be both early and late complication, is the main reason for explantation. According to the results of this study, donor sclera or double-thickness pericardium patch grafts should be used in patients who have inflamed conjunctiva and eye rubbing potential and it should be carefully approached to all conjunctival erosions due to risk of endophthalmitis.

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## Clinical results of keratoconus patients treated with corneal collagen crosslinking alone versus corneal collagen crosslinking combined with Intacs implantation

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**Background:** The study aims to compare the refractive and topographic outcomes of keratoconic eyes treated with corneal collagen crosslinking (CXL) alone versus corneal collagen crosslinking (CXL) combined with Intacs implantation.

**Design:** A prospective comparative study.

**Participants:** The study recruited 38 eyes of 30 consecutive progressive keratoconus patients.

**Methods:** In Group I, 24 eyes were treated with CXL alone and in Group II, 14 eyes underwent CXL combined with simultaneous femtosecond-assisted Intacs implantation. Visual acuity, refraction and corneal topography were assessed and compared between the two groups at baseline, 3 months and 6 months.

**Result:** The mean age of participants was  $26.5 \pm 7.9$  (range 15-51) years. The average of follow up was  $6.66 \pm 0.68$  (range 5.5-8). At the final follow up, Group II (CXL combined with Intacs) resulted in an additional improvement of uncorrected distance visual acuity (UDVA) by 0.2 Log units ( $p \leq 0.05$ ), spherical power by 0.80 diopter ( $p \leq 0.05$ ) and cylindrical by 2.10 D ( $p \leq 0.05$ ). Flattening of 1.5 D more of both mean keratometry (Kmean) and steepest keratometry (Kmax) also flattened by 1.50 diopter with the combined procedure. Corneal volume decreased in Group I whereas, there was an increase by 2.89 mm in the combined procedure.

**Conclusion:** Refractive and topographic outcomes improved post-operatively in both the groups; however, the simultaneously combined procedure provided significantly better results. The refractive outcomes in both groups were independent of gender, age and the eye involved.

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