Methods

- Molteno: 6-11%
- Baerveldt: 0-57%
- Ahmed: 12-23%

Here we describe and present results of a novel technique of managing post-operative hypotony in patients who have had a GDD implant.

Results

- Mean follow-up was 34.6 months, median 40.5, range: 4-47.
- 16 external, 6 internal tying off tube.
- Visual acuity improved in 12 eyes, remained the same in 4 eyes and decreased in 6 eyes when comparing pre-op and final VA.
- Mean pre-op LogMAR VA was 1.3 (0.9) and mean final VA was 1.1 (1.2).
- Percentage success rate was 50.0%.
- 31.6%, 59.1%, 65.0%, and 63.6% at Day 1, Month 1, Month 3, Month 12 and final follow up.
- At final follow up, success defined as IOP 7-21mmHg with resolution of hypotony and its complications = 45%.
- Following the procedure, IOP increased above the desired levels in 3 eyes (13.6%). This required either untying or laser suture lysis.

Complications

- There were 2 cases of endophthalmitis and subsequent phthisis bulb: Case 1: 11 months following tying-off procedure related to retinal detachment and surgery 4 months before onset of endophthalmitis. Case 2: 8 months following the procedure related to retinal detachment and surgery 2 months before the onset of endophthalmitis.
- 3 retinal detachments: 2 - see above, 1 - 34 months following the procedure.
- 3 eyes had turned phthisical, 2 following endophthalmitis (see above), 1 eye 12 months following the procedure secondary to persistent hypotony – the only true failure of the procedure.
- Endophthalmitis cases were not directly related to the tube-tying procedure.

Procedure

External tying: A limbal incision is made over the tube in order to extract the tube from AC. Two 9/0 Prolene sutures are used to tie the distal end of the tube. A 6/0 Prolene suture is inserted inside the tube lumen for the first tie, then a 7/0 Prolene suture is inserted for the second tie in order to leave a small channel for aqueous to drain through the tube.

Internal tying: Two paracenteses are made about 2 clock hour on either side of the tube. A 9/0 Prolene suture is passed through from one paracentesis to the other under the distal end of the tube in AC, then the suture loop is retracted from the first paracentesis with the loop over the front of the tube. A slip-knot with a modified ‘Siepser’ technique is tied around the distal end of tube under high magnification to leave a small channel for aqueous to drain through.

Conclusions

- Patients suffering from uveitic glaucoma are at a high risk of developing fluctuating intraocular pressures.
- Tying-off of GDDs is a novel technique which may be used to manage post-operative hypotony when injection of viscoelastic into the AC has failed in complicated glaucoma patients.
- It may be used in the paediatric population as well as adults.
- From our experience, although technically more difficult, internal tying results in less corneal complications.

References