

Cataract surgery in uveitis

How I do it !

Mr Usman Saeed FRCOphth
Consultant Ophthalmologist
Royal Liverpool University Hospital
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London

When to operate






- When cataract becomes visually significant
- When the uveitis has been under control for at least 3 months* (preferably off topical treatment)
- Control of other co morbidities has been achieved
 - Blood pressure
 - Arthritis
 - Infections (consider and eliminate TB)

* AAO guidelines EYenet 2014; however good trials are lacking

Pre operative state

- Uveitis and its treatment ; steroids, predispose to cataract formation
- Pre operative diagnosis to contemplate
- Complications of uveitis
 - Posterior synechiae
 - Secondary glaucoma
 - CMO
 - Iris atrophy

Who to do

- Uveitic cataracts should be done by the consultant if possible
- HLA B7 associated uveitis 
- JIA associated uveitis 
- Intermediate uveitis 
- Fuchs heterochromic cyclitis 
- Traumatic cataract / sympathetic uveitis 

Problems

- Who to do
- When to do
- What to do
- Pre operative problems
- Operative problems
- Post Operative problems

What to tell the patient !

- Expect a rocky ride !
- Manage expectations



Prognostication is special groups

- Certain groups do worse than others
- For example JIA

Prior to surgery

- Control uveitis with topical steroids / oral agents till controlled then wean off steroids to a minimum
- If not controlled , consider antimetabolites like methotrexate
 - Methotrexate will take 6 weeks to work
 - Other antimetabolites will need time too
- Liaise with your rheumatology colleagues / MDT approach

JIA related cataract & uveitis – prognosis

Eur J Ophthalmol, 2018 Sep 12:1120672118799623. **Long-term results after primary intraocular lens implantation in children with juvenile idiopathic arthritis-associated uveitis.**

Kulik U, Wiklund A, Kugelberg M, Lundvall A

Best corrected visual acuity at the last follow-up $\geq 20/40$ in 65% of the eyes. Postoperatively, glaucoma developed in 8 eyes (24%), posterior capsular opacification and secondary membrane formation requiring surgery in 15 eyes (44%), macular oedema in 5 eyes (15%) and phthisis in 2 eyes (6%).

Prior to surgery

- Consider secondary glaucoma
- Avoid trabeculectomy
- Is tube surgery appropriate
- Non penetrating surgery probably will not work
- I recommend separate cataract surgery and subsequent glaucoma procedure (if needed at all) in my patients

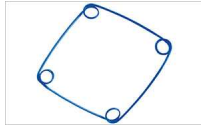
Problems to consider

- Small pupil – consider M- ring
- CMO- additional steroids , IVTA / Ozurdex, oral
- Secondary glaucoma- look at the angle
- Floppy iris & weak zonules- tricky surgery
- Limited view – band keratopathy
- Anterior segment bleeding – Fuchs , PXF

Day of surgery

- Allow plenty of time
- Not suitable for a high volume list
- Keep intracameral phenyl epinephrine 1%
- Keep a malyugin ring (recommend version 2 but v 1 will be okay as well)
- Vision blue

During surgery



- Minimise iris manipulation
- Try and avoid iris procedures if possible
- If you have to, I recommend Malyugin ring version 2
- Allows Malyugin use in 2mm incision with better AC control
- The slightly smaller diameter material results in a larger 'scroll gap' making engagement and disengagement for the pupil margin easier.

Lens selection

- Hydrophobic single piece acrylic lens in the bag *
- If a sulcus lens is needed because of PC rupture , then aim for optic capture with a 3 piece posterior vaulted lens
- If impossible, think about aphakia and contact lenses rather than a AC IOL or iris fixated lens
- Do not consider a single piece lens in sulcus**

* J Cataract Refract Surg. 2002 Jul;28(7):1160-72. Uveal and capsular biocompatibility of 2 foldable acrylic intraocular lenses in patients with uveitis or pseudoexfoliation syndrome: comparison to a control group. Abela-Fornacek C, Amon M, Schauerberger J, Schild G, Kolodiaschna J, Barisani-Asenbauer T, Kruger A.

** BMC Ophthalmol. 2018 Sep 14;18 Case report of secondary pigment dispersion glaucoma, recurrent uveitis and cystoid macular oedema following inadvertent implantation of an intraocular lens into the ciliary sulcus following cataract surgery. Porteous A, Crawley L.

M- Rings

- My experience is that the V 2 is a lot more "flimsy" to use but much more iris friendly
- More easier to engage and disengage
- 2 versions 6.25 mm and 7 .0 mm

Lens selection

- Plate haptic IOLs ❌
- Multifocal IOLs ❌
- Silicone IOLs – avoid if vitrectomy may be needed later eg ERM ❌
- PMMA IOLs ❌
- Acrylic hydrophobic lens in the bag ✅

Phaco emulsification

- Once the iris is managed , do the cataract surgery as per routine
- Use a silicone tipped IA
- Remove all the SLM – zero tolerance for retained SLM in the bag

At the end

- Remove healon / viscoelastic
- Reposition any iris tissue if iris prolapse
- Consider local steroids
 - Sub-conjunctival if anterior uveitis only
 - Intra-cameral if previous severe uveitis
 - Intravitreal if previous CMO/ intermediate uveitis

Post Operative regime

- Depends upon iris manipulation / risk assessment
- G Maxidex 2 hourly for a week then QDS 6 weeks
- G Chloramphenicol QDS for 2 weeks then stop
- Occ Betnesol at night for 6 weeks
- Oral Prednisolone 20 mg OD 1 week, then 15 mg OD for 1 week, 10 mg OD 1 week, then 5 mg OD for 1 week
- G Yellox for 6 weeks * some evidence of reduction of CMO

Managing CMO

- Intravitreal steroids reduce the chances of developing CMO
- IV Ozurdex
- IV Triamcinolone
- Evidence

What else can you do

- Intravitreal Triamcinolone (Kenalog or Triasence)
- Intravitreal Dexamethasone (Ozurdex)
- Intracameral Dexamethasone
- Oral steroids (depends upon body weight; warn about side effects)
- Methotrexate (takes 6 weeks to work; need regular bloods; exclude TB)

Post Operative CMO – Ozurdex

Ocul Immunol Inflamm. 2018 Sep 21:1-9. **Efficacy of Intravitreal Dexamethasone Implant in Patients of Uveitis Undergoing Cataract Surgery.**

Gupta G, Ram J, Gupta V, Singh R, Bansal R, Gupta PC, Gupta A
Prospectively, 30 eyes with uveitic cataract were randomized into 2 groups

- (i) standard of care (SOC group)
- (ii) Dexamethasone implant (DEXA group).

- DEXA group had significantly less postoperative flare (LFP values) (P<0.05) as compared to SOC group
- Recovery of flare to preoperative value occurred much early in DEXA group.
- 37.5% cases developed CME in SOC group but none in DEXA group.
- Mean CMT (267.81±34.26µm) and final logMar BCVA (0.036±0.063) was significantly better in DEXA group (p<0.04).

Intravitreal triamcinolone (non uveitis use)

- Downs syndrome and learning difficulty patients
- Dementia / Alzheimers disease

Uveitic cataracts and prior CMO treated with Ozurdex previously

Am J Ophthalmol. 2016 Jun;166:149-153.

Dexamethasone Intravitreal Implant in the Treatment of Uveitic Macular Edema in the Perioperative Cataract Setting: A Case Series.

Larochelle MB, Smith J, Dacey MS.

Seventeen eyes (14 patients) There was no statistically significant change from preoperative CMT (mean 302 µm) to postoperative CMT (307 µm) on OCT.

In the subset of eyes that underwent phacoemulsification within 4 weeks of the DEX implant (8 eyes), the mean change in CMT was -47.0 µm, compared to +51.1 µm in those that received the DEX implant greater than 4 weeks prior to phacoemulsification (P = .005).

CONCLUSIONS:

Intravitreal dexamethasone implant was shown to prevent the recurrence or worsening of macular edema in uveitic patients with a history of CME who underwent phacoemulsification. The mean CMT decreased in the subset of eyes that received the DEX implant within 4 weeks prior to cataract surgery.

Intracameral dexamethasone after cataract surgery

- Dexamethasone implants have been tried in the Anterior chamber
- The aim appears to be no drop prescription after surgery
- ? Usefulness in uveitis patients may depend upon the dosage

J Cataract Refract Surg. 2018 Oct;44(10):1236-1246.

Safety of IBI-10090 for inflammation associated with cataract surgery: Donnenfeld ED, Solomon KD, Matossian C.

126 IC dexamethasone patients and 55 prednisolone eye drops patients were included.

increased intraocular pressure (11.1%), iritis (6.3%)

By 8 days postoperatively, 51.6% of IBI-10090 eyes and 50.9% of prednisolone eyes had anterior chamber cell clearing; more than 98% of eyes had clearing at 90 days.

The anterior chamber flare and anterior chamber cell-flare clearing results were similar.

Of IBI-10090 patients, 68.7% strongly agreed that not having to use eyedrops was very convenient; 39.2% using prednisolone 1.0% strongly stated they would have preferred dropless therapy.

When you have done the surgery

PRAY

Intracameral dexamethasone

J Coll Physicians Surg Pak. 2014 Apr;24(4):245-8.

Effect of intracameral use of dexamethasone on corneal endothelial cells.

Jamil AZ, Ahmed A, Mirza KA.

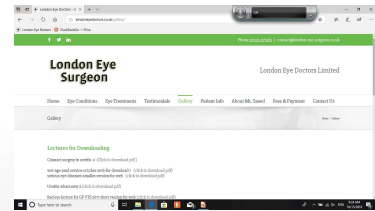
Indian J Ophthalmol. 2014 Aug;62(8):861-4.

Comparison intracameral dexamethasone and intracameral triamcinolone acetonide injection at the end of phacoemulsification surgery.

Gungor SG, Bulam B, Akman A, Colak M.

You can download the lecture slides

www.londoneyedoctors.co.uk/gallery



My impression

- IC dexamethasone keeps the inflammation under control for the first 3-5 post operative days
- By that time, routine post operative steroids should have kicked in or the oral steroids should have kicked in
- My glaucoma colleagues like it a lot !!