



Diode Cyclophotocoagulation for Refractory Cases of Pediatric Glaucoma

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This study was carried out to evaluate the effect of trans-scleral diode cyclophotocoagulation on refractory cases of pediatric glaucoma

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Glaucoma in infants with early onset developmental glaucoma (EODG, Primary congenital glaucoma) can respond well to surgeries specifically tailored for their management like trabeculotomy and goniotomy

However, other instances of infantile glaucoma like Recurrent EODG, aphakic/pseudophakic glaucoma, advanced anterior segment dysgenesis pose a great challenge to most glaucoma surgical techniques

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Commonest Causes

- Recurrent EODG
- Pseudophakic glaucoma (5 eyes)
- Advanced anterior segment dysgenesis

Available Options

- Trabeculotomy
- Trabeculectomy with mitomycinC
- Valve surgery
- Cryo-cycloablation

- Diode-cyclophotocoagulation

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Patients

- 42 eyes of 37 infants and children, age range 9months-6years
 - Recurrent EODG (21eyes)
 - Pseudophakic glaucoma (14 eyes)
 - Advanced anterior segment dysgenesis (7 eyes)

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Technique

- Trans-scleral
- 25-35 shots/session
- 360 degrees evading horizontal line
- Power 1000-2500
- Duration 1500-2000



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Postoperative Management

- Keep anti-glaucoma meds 1-7 days depending on IOP level
- Watchful antiinflammatory topical steroid-antibiotic
- Evaluation 2 days, 1 week, 3 months, 6 months post-op

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Outcome Parameters

- Course of 6 months
- IOP level
- C/D ratio evaluation
- Subjective evaluation of visual performance (*parent comments on child activities pre- and postoperatively, visual acuity testing when applicable*)
- *Signs of ocular inflammation*

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Results

- Marked IOP lowering/ hypotony (IOP<6) and associated inflammatory reaction in the form of severe tenderness, injection, tearing occurred in 24 eyes (57%) within 3 days postop with IOP building up afterwards to its plateau below 20 mmHg within 6 weeks

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Results

- Various degrees of transient extra/intraocular inflammation were observed in almost all eyes starting the second day postop, and disappeared 1-6 weeks postop. The severity of these episodes was clearly directly proportionate to the associated IOP lowering.

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Results

- Along the course of the study, IOP lowered below 20mmHg with no medications in 35 eyes (83%), the remaining eyes needed 1-2 medications to keep IOP at that level.

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Visual performance

- Significant temporary reduction of visual performance as commented by parents was observed in 7 eyes (24%)
- Noticeable visual improvement was commented by parents in 8 eyes (28%)
- Stable vision in rest of eyes (48%)
- No permanent loss of functioning vision was observed in all eyes

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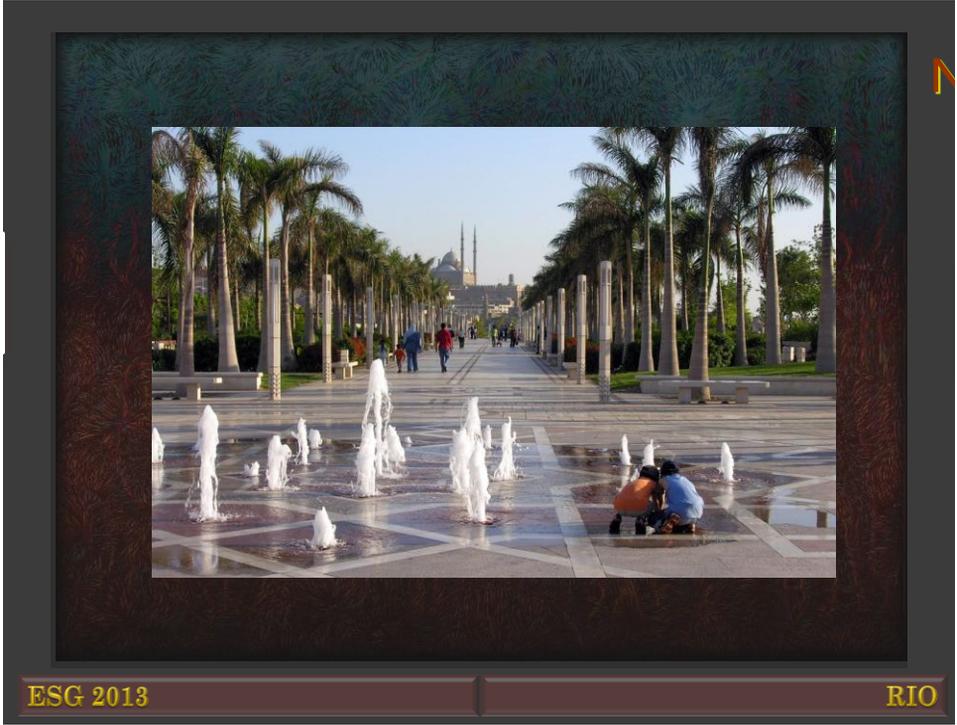
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Conclusion

Trans-scleral Diode Cyclophotocoagulation is a viable method for managing refractory pediatric glaucoma cases

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