

Short Term Results of Transscleral Diode Laser Cyclophotocoagulation for Childhood Glaucoma: A Case Series

AbdulRahman AA¹ and Abdull MM²

¹Department of Paediatric Ophthalmology and Strabismus, National Eye Centre, Kaduna, Nigeria

²Department of Ophthalmology, Abubakar Tafawa Balewa Teaching Hospital, Bauchi, Nigeria

Corresponding author: AbdulRahman AA.

Email: aaaminatu@yahoo.com

Introduction: The diagnosis and treatment of paediatric glaucoma has remained challenging despite developments in research and technology.^{1,2} Due to young age; management is life-long and long-term outcomes may be uncertain. Management of paediatric glaucomas usually involves various surgical procedures.^{3,4} Cyclo-destructive procedures entail ablation of the secretory epithelium of the ciliary body leading to reduced aqueous humour secretion and ultimately reduction of intraocular pressure. The aim of this study was to assess the short-term results of trans-scleral diode laser cyclophotocoagulation (TDLC) in Nigerian children with advanced primary glaucoma.

Methods: Hospital records of children with advanced primary glaucoma who had TDLC between November 2016 and February 2017 were reviewed.

Results: Eleven eyes of seven children aged six months to 13 years were studied. All were on topical antiglaucoma medications with baseline average intraocular pressure of 27 mmHg (range 8-49). After TDLC mean intraocular pressures were 16, 15, 30 and 17 mmHg at one week, two, three and six months respectively. Except for one patient, all the others required antiglaucoma medications postoperatively for adequate control.

Discussion: Our small series was comprised of patients with advanced primary glaucoma and very poor follow up behaviour after the first week visit. We recorded a 41% drop in IOP from baseline within the first two months; similar to reports from other researchers^{2,5} However, by the third postoperative month mean IOP had exceeded the baseline value by 11% in four eyes of only two patients that showed up; necessitating use of topical antiglaucoma medications while planning for repeat

CPC or filtration surgery. This rise in IOP after the initial drop could be attributed to regeneration⁶ or recovery⁵ of the ciliary epithelium; or inadequate localization of the target ciliary process (transscleral illuminator was not available). Reports from various researchers show that multiple treatments are necessary in some patients to achieve the desired long term IOP lowering effect.^{2,4,5,6}

Conclusion: TDLC is a useful tool in the management of refractory paediatric glaucomas in combination with other treatment modalities. Further studies with better follow up will be needed to determine its safety and efficacy as an acceptable treatment modality in children with primary glaucoma.

References

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