

## Commentary: Pediatric cataract management during the COVID-19 era

Blindness in children remains a cause of great concern globally despite large advances in the field of ophthalmology in the past few decades. Pediatric cataract blindness presents an enormous problem to developing countries in terms of human morbidity, economic loss, and social burden. With over 1.4 million children blind throughout the world, low vision that can significantly hinder activities of daily living is present in over 17.5 million. Cataract forms a large share of the preventable blindness with the World Health Organization (WHO) estimates ranging above 200,000 cases world over.<sup>[1,2]</sup> Developing countries like India and China form the epicenter of the problem with more than 20% of their population visually impaired. Economic burden and years of productive life lost due to untreated pediatric cataract clearly favor urgent attention to this challenge. To assure the best long term outcome for cataract blind children, appropriate pediatric surgical techniques need to be defined and adopted by ophthalmic surgeons of developing countries.

Managing cataracts in children remains a challenge. Treatment is often difficult, tedious, and requires dedicated team effort. Cataract surgery infants and children are usually different from adults due to several challenges. These include need for examination under anesthesia (EUA), difficulty in calculation of correct intraocular lens (IOL) power due to unavailability of instruments (such as handheld keratometer), change in axial length, need for primary posterior capsulectomy (with or without anterior vitrectomy) to provide a clear visual axis, long term follow-up for refraction, intraocular pressure monitoring, evaluation of opacification of visual axis, and amblyopia management. Several ophthalmologists refer infantile/pediatric cataracts cases to institutional set-up leading to increase work load, delay in planned surgery, and subsequent visual rehabilitation in these cases.

Management of infantile/pediatric cataract during the COVID-19 era poses additional challenges. Lenticular opacity in one or both eyes can be missed by parents/family members; thus, most of these children present late for treatment leading to the possibility of sub-optimal visual gain after surgery due to irreversible deprivation amblyopia. With the COVID-19 crisis upon us, we must rethink various innovative ways to facilitate pediatric cataract management.

"Pediatric cataract surgery practices in the COVID-19 era: Perspectives of a tertiary care institute in northern India" is an excellent study published by the authors in current issue of *Indian Journal of Ophthalmology*.<sup>[3]</sup> The authors discussed the impact of COVID-19 pandemic on the pediatric cataract surgery services in a tertiary care institute in India, as well as the protocol followed for these surgeries. The authors had resumed pediatric cataract surgeries in June 2020 at the time of "Unlock-1" and have discussed the percentage reduction in pediatric cataract surgeries in 2020 during the "Unlock 1, 2, 3, and 4," as compared to the number of surgeries done by the pediatric ophthalmology unit in the same months last year. The article also emphasized triage and tele-medicine in an institutional set up. They have also discussed the preoperative, intraoperative, and postoperative protocol followed for children with pediatric cataract, and also the measures which can be taken for the safety of patients and staff. Their study concluded that it is essential to ensure COVID-19 protocol (wearing a mask, social distancing, and frequent hand hygiene) among the patients and health care personnel. The authors concluded redesigning pediatric cataract surgery practices is essential to ensure the safety of the health care workers and patients as well.

COVID-19 has forced us to find out various innovative tools and technologies to help and manage our patients. It is time to come-out with such solutions for pediatric cataract management. *How to detect visually significant cataract at the early stage to minimize amblyopia? How to minimize frequent visit to the hospital after surgery? For children presenting with bilateral cataract, will it be appropriate to perform bilateral examination under anesthesia (EUA) and bilateral pediatric cataract surgery in cases of visually significant cataract in the same sitting? How to improve compliance for postoperative medications as well as for visual rehabilitation after successful pediatric cataract surgery?*

Bilateral simultaneous pediatric cataract surgery may carry several theoretical advantages: single exposure to general anesthesia, better visual rehabilitation of both eyes so reducing incidence of amblyopia, less visits to the hospital, reducing the time and cost to the family, etc. Pediatric cataract cases need to be monitored periodically (by video call) to ensure correct technique of instilling eye drop, contact use of corrective glasses, good compliance for patching, and amblyopia management carried out by the parents. Every effort must be done to train the parents and family members well initially itself about postoperative precautions as postoperative visits are kept to a minimum in COVID-19 era. Periodical monitoring either by telephone or video calls must be done to check whether the parents are following all postoperative instructions carefully.

There are few important changes in practice that could have several significant benefits for pediatric cataract surgery and intraocular lens implantation. The "Pediatric Cataract Expert Committee" and "All India Ophthalmological Society (AIOS)" should carefully consider forming guidelines for appropriate anesthesia to minimize aerosol and COVID-19 exposure, and bilateral pediatric cataract surgery in the same sitting to minimize pediatric cataract blindness in India during the ongoing COVID-19 pandemic. Studies can be planned at referral ophthalmic institutes (such as Dr. Rajendra Prasad Center for Ophthalmic Sciences, AIIMS, New Delhi, and Advance Eye Center, PGIMER, Chandigarh) to evaluate

safety and efficacy of immediate sequential bilateral pediatric cataract surgery. Theoretically, this can be less expensive, reduces exposure to general anesthesia twice, reduces the cost of personal protective equipment use, is more efficient, and provides faster binocular recovery of vision for the child and also reduces risk of amblyopia. A strict COVID-19 protocol (triage, hand hygiene, use of face mask in hospital premises, physical distancing, etc.) must be followed to manage pediatric cataract cases as nicely elaborated in various articles and guidelines published by the All India Ophthalmological Society (AIOS).<sup>[4]</sup>

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Access this article online	
Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/ijo.IJO_653_21

Cite this article as: Pandey SK, Sharma V. Commentary: Pediatric cataract management during the COVID-19 era. *Indian J Ophthalmol* 2021;69:1287-8.