

Prediction of refractive error after intraocular lens implantation in pediatric patients at Al-Shifa Trust Eye Hospital Rawalpindi

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Abstract:

Objective: To determine the amount of refractive error in children after cataract surgery with intraocular lens (IOL) implantation to evaluate success in achieving postoperative target refraction and to determine the factors which affect the prediction of refractive error in pseudophakic pediatric patient.

Study design: Retrospective observational case study.

Subjects and Methods: The children were assigned into three groups depending on age at time of surgery: Group A, 1–4 years old; Group B, 4-8 years old; Group C, 8-15 years old. Multiple regression analysis was used to create a formula for expected myopic shift and to find out which variables were associated with a higher absolute prediction error.

Results: Children of group A of age 1-4 years experienced higher myopic shifts and a larger mean rate of refractive change per year compared with older children. We found higher myopic shifts in younger children at time of surgery and children with unilateral cataract. Absolute prediction error was significantly higher in Group A compared with Group B and C. Multiple regression analysis showed that corneal radius was the only variable significantly associated with absolute prediction error.

Conclusion: Our data demonstrate the complexity in predicting the postoperative refraction in children of 2-3 years old and show that age at surgery and laterality are factors to consider when deciding which IOL power to implant in children. *Al-Shifa Journal of Ophthalmology* 2013; 9(2): 77-83 © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.
