

Refractive Changes Following Cataract Surgery with Intraocular Lens Implantation in Childhood

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Objective: To study refractive changes after cataract extraction and primary intraocular implantation in children in Songklanagarind Hospital.

Design: Retrospective descriptive study

Methods: Medical records of patients who had cataract surgery and primary IOL implantation in Songklanagarind hospital between January 2001 and December 2011 were reviewed. Children who underwent cataract surgery before the age of 8 years with more than 1 year of follow-up were included. Patients were assigned into 4 groups according to age at the time of surgery. Demographic data, follow-up time, postoperative refraction, types of surgery, and IOL data were recorded.

Results: Fifty-two eyes of 35 patients (mean age 2.52 ± 2.35) were included. The mean first and last postoperative refractive error were $+2.54 \pm 2.55$ and -0.94 ± 2.75 D (-7.75 to +4.12) diopters, respectively. Mean follow-up time was 3 ± 1.75 years (1 to 8.17). Children in Group A (0-1 year old) had a mean myopic shift of -5.65 diopters (range -13.10 to -1.00) during the mean postoperative follow-up time of 2.96 years. Children in group B (age 1- 2 years old) had a mean myopic shift of -3.92 diopters (range -9.00 to -0.88) over 3.31 years of follow-up. Children in group C, who underwent surgery between age 2 and 4 years, had a mean myopic shift of -2.06 diopters (range -4.25 to +2.12) over 4.02 years. Children in group D, who underwent surgery between age 4 and 8 years had a mean myopic shift of -0.51 diopters (range -3.00 to +1.12) over 2.21 years.

Conclusions: Our study shows an inverse relationship between the mean rate of myopic shift and the age at IOL implantation. The mean rate of myopic shift is greatest in the younger age groups. The myopic progression tends to decrease with age. However, there is high variability in the postoperative refraction changes among children in the same age group.