Paediatric cataract surgery outcome in Hospital Raja Perempuan Zainab II: A 10-Year Review

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ABSTRACT

Introduction: Cataract is the main cause of visual loss in paediatric population (22.3%) followed by retina disorders (20.8%). A recent study involving 12 Asean countries showed that Malaysia has one of the highest prevalence of paediatric cataract in Asia at 5.33 per 10,000 people, whereas its neighbour Indonesia and Thailand has a prevalence of 0.60 and 4.27 per 10,000 people, respectively. Treating cataract in paediatric population is challenging. Particular challenges include a more elastic lens capsule, a smaller eye that can preclude intraocular lens (IOL) implantation, and quickly changing axial length, which makes determining IOL power more challenging. **Materials and Methods:** A retrospective study involving 48 patients (65 eyes) aged 0-17 years old with cataract and underwent cataract surgery in Hospital Raja Perempuan Zainab II, Malaysia from January 2014 until December 2023. The demographics and clinical data were collected from medical records. Visual outcomes at one-year post-operation and the associated factors were analysed using logistic regression. This study is approved by Medical Research & Ethics Committee (MREC), NMRR ID-24-00814-OLC (IIR). **Results:** There were higher preponderance in male, 32 (66.67%) compared to female, 16 (33.33%) consistent with previous local study (4). In our study, 32.3 % (21) of patient aged less than 5 years old, and 67.7% (44) of patients aged more than 5 years old. Majority of our patients had unilateral cataract, 31 patients, compared to bilateral cataract, 17 patients. Our study showed most patients had primary cataract, 44 eyes compared to secondary cataract, 21 eyes, aligning with findings from previous studies (4, 5). The most common cause of secondary cataract is traumatic cataract (11 eyes) followed by post vitrectomy cataract (5 eyes) and uveitic cataract (5 eyes). The mean axial length is 22.5 (2.4) mm. The most common post operative complication is posterior capsule opacification in 8 patients (12.3%), consistent with previous studies (4,5,6). 13 patients have systemic comorbidities, the concomitant conditions included Down syndrome, congenital heart disease, global developmental delay and retroviral disease. 18 patients have ocular comorbidities, the most common condition is rhegmatogenous retinal detachment in 6 patients. Multiple logistic regression showed that ocular and systemic comorbidity were significantly associated with poor visual outcome, with p-value of 0.016 and 0.045 respectively. There are no significant association of age, axial length, cause of cataract and duration of surgery with the poor visual outcome. **Conclusion:** Posterior chamber IOL implantation is significantly associated with better visual outcomes. The presence of ocular and systemic co-morbidities significantly increases the risk of poor visual outcomes. In clinical practices, identifying and managing co-morbidities early may improve visual outcomes in paediatric cataract surgery.