ONCODAILY MEDICAL JOURNAL

abstract

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doi.org/10.69690/ODMJ-018-0425-1785

SIOP ASIA 2025
SAUDI ARABIA

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Impact of Monocular Enucleation on Functional Vision in Retinoblastoma Patients

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Introduction: Purpose is to assess the impact of monocular enucleation in children with retinoblastoma on the development of their functional vision

Methodology: Children diagnosed with retinoblastoma during 2018-2023 in Pediatric Ophthalmology Services in Tertiary Hospital, Lahore, Pakistan and underwent monocular enucleation & completed their chemotherapy were enrolled in this study. Functional vision of patients was assessed on a self-developed proforma. According to the age at the time of enucleation, the children were divided into 2-groups (Group A: 1-5years & Group B: 5.1-10 years). Quantitative variables were analyzed in terms of mean ± S.D.

Results: Out of the 44 children included in the study, 24 were aged 1-5 years, and 20 were aged 6-10 years. Functional vision assessment revealed, 34% had very good and only 6.8% showed very poor ability of primary functions of vision. In Group A, 2.3% of the patients showed “very good” contrast and depth perception while 29.5% showed only “acceptable” primary cardinal components of visual function. In contrast, 5% showed a “very good” response to depth perception while 80% were “good” and 15% had “acceptable” ability in the older age group (Group B). Moreover, in group B, 60.9% demonstrated “good” ability of secondary functions of vision. With regards to Visual fields, only 8.7% had a “very good” visual field while 28.3% showed “acceptable” visual fields in Group A, contrarily 15% showed “very good” response and 20% showed having “acceptable” visual fields in Group B.

Conclusion: The functional vision while broadly classifying into primary and secondary basic functions seems to develop monocularly with monocular clues in our study cohort but not as “very good” as required for dynamic vision. Running, jumping, cycling, and similar activities rely on dynamic vision. These abilities can become impaired with monocular vision, necessitating visual rehabilitation to ensure safe lifelong participation in these activities.