

Strabismus Management in Retinoblastoma Survivors

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Abstract : Purpose: To report the result of strabismus surgery in eye-salvaged retinoblastoma (Rb) patients. Methods: A retrospective case series including 18 patients with Rb and strabismus who underwent strabismus surgery after completing tumor treatment by a single pediatric ophthalmologist. Results: A total of 18 patients (10 females and 8 males) were included with a mean age of 13.3 ± 3.0 (range, 2-39) months at the time tumor presentation and 6.0 ± 1.5 (range, 4-9) years at the time of strabismus surgery. Ten (56%) patients had unilateral, and 8(44%) had bilateral involvement, and the most common worse eye tumor's group was D (n=11), C (n=4), B (n=2) and E (n=1). Macula was involved by the tumors in 12 (67%) patients. The tumors were managed by intravenous chemotherapy (n=8, 47%), intra-arterial chemotherapy (n=7, 41%) and both (n=3, 17%). After complete treatment, the average time to strabismus surgery was 29.9 ± 20.5 (range, 12-84) months. Except for one, visual acuity was equal or less than 1.0 logMAR ($\leq 20/200$) in the affected eye. Seven (39%) patients had exotropia, 11(61%) had esotropia ($P=0.346$) and vertical deviation was found in 8 (48%) cases. The angle of deviation was 42.0 ± 10.4 (range, 30-60) prism diopter (PD) for esotropic and 35.7 ± 7.9 (range, 25-50) PD for exotropic patients ($P=0.32$) that after surgery significantly decreased to 8.5 ± 5.3 PD in esotropic cases and 5.9 ± 6.7 PD in exotropic cases ($P<0.001$). The mean follow-up after surgery was 15.2 ± 2.0 (range, 10-24) months, in which 3 (17%) patients needed a second surgery. Conclusion: Strabismus surgery in treated Rb is safe, and results of the surgeries are acceptable and close to the general population. There was not associated with tumor recurrence or metastasis.

Keywords : retinoblastoma, strabismus, chemotherapy, surgery

Conference Title : ICRRD 2023 : International Conference on Retinoblastoma and Retinal Disorders

Conference Location : Paris, France

Conference Dates : December 25-26, 2023