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PIBIC Last Name - Motono First Name - Márcia Middle -

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POSSIBLE RETINOTOXIC EFFECTS OF CARBOPLATIN IN CHILDREN WITH RETINOBLASTOMA

M.Motono^{1,2}, A.Berezovsky¹, C.Erwenne^{1,2}, S.R.Salomão¹. Department Of Ophthalmology, Federal University of São Paulo, São Paulo, SP, Brazil¹; Ophthalmology Department, A.C.Camargo-Câncer Hospital. São Paulo, SP, Brazil²

Purpose: To evaluate retinal function by full-field electroretinographic recording (ERG) in remaining eyes of children treated with enucleation and systemic chemotherapy with carboplatin for unilateral retinoblastoma. **Methods:** A group of nine children (5 girls and 4 boys) previously treated with enucleation and systemic chemotherapy with carboplatin for unilateral retinoblastoma (mean age at diagnosis = 18.27 ± 9.19 mos) were referred for ERG testing (mean age at test = 5.68 ± 2.63 years). Peak-to-peak amplitude, b-wave implicit time values and visual acuity measured by ETDRS or Snellen chart, were compared to a control group of volunteers (N = 18) aging from 6.73 to 14.91 years (mean age at test = 9.88 ± 2.47 years). Consent forms were obtained from each infant's parents or guardians before testing. Full-field ERGs were obtained in the remaining eye through a dilated pupil after 30 minutes of dark adaptation. ERGs were recorded with a Burian-Allen bipolar contact lens electrode from the anesthetized cornea. ERG outcomes were analyzed by student t-test between the two groups. **Results:** There was no significantly difference for ERG responses for rod response, maximal response, oscillatory potentials, cone single flash and flicker in fellow eyes of unilateral cases, which underwent systemic chemotherapy with carboplatin when compared to the control group. Visual acuity results were comparable in two groups. **Conclusions:** The fellow eye of unilateral cases treated with systemic chemotherapy with carboplatin had ERGs within the normal range, showing no widespread retinotoxic effects in this small group of patients. ERG testing can be used to help in determining the effects of different methods of treatment for this disease.