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The signature of the First (Presenting) Author, (REQUIRED) acting as theauthorized agent for all authors, hereby certifies.

Thatany research reported was conducted in compliance with the Declaration ofHeisinki and the 'UNIFESP EthicalCommittee"

Orbital Growth in Children treated forRetinoblastoma

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Purpose: Orbital bony growth retardation isa serious late side effect of Retinoblastoma treatment. We performed aretrospective study to determine the effects of enucleation, irradiation and theuse of orbital implants on bony growth using measurements based on computedtomography (CT) imaging.**Methods:**The orbits of 69 patients treatedfor retinoblastoma, 37 bilateral and 32 unilateral, were divided into treatmentgroups. Enucleated orbits were also divided into groups that inplants wereeither utilized or not. The orbit volume of these groups was calculated usingmeasurements taken in follow-up CT examinations and compared in order to obtaingrowth impact. Follow-up CT was obtained from 6 to 246 months (mean, 66 months)after the begining of the treatment.**Results:**Orbit volume asymmetry variedafter treatment from 0 to 90% (mean, 19%). Enucleation and Radiation therapyaffected orbital growth. Combined therapy, enucleation plus radiation therapyhad a tendency to greater development impair but not statistically differentfrom enucleation alone (p=.13). Enucleated orbits with inplants presented from1% to 28% growth asimetry and those without inplants presented from 7% to 90%(mean 40%, sd 27%) (p=.004).**Conclusion:**Enucleation, Radiation therapyand combined therapy affect orbital growth. Enucleated orbits demonstrated twiceas much growth retardation when implants were not used. The use of implants forenucleated orbits largely reduces growth retardation.