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Association of retinoblastoma with clinical presentation and histopathological findings

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Purpose: To assess an association of clinical presentation and histopathological findings of patients with retinoblastoma.

Materials and Methods: We retrospectively analyzed, clinical and histopathology records of all the patients admitted with a diagnosis of retinoblastoma at a tertiary referral center, Nepal from May 2009 to June 2016.

Results: Forty-one patients (42 eyes) were diagnosed with retinoblastoma. The mean age was 2.9±2.05 years with M:F - 1.4:1. Unilateral eye involvement was seen in 40 cases (97.6%). Leukokoria was the most common presentation (57.14%), followed by proptosis (14.2%). Using the International Intraocular Retinoblastoma Classification, most of the patients (75.6%) were classified as Group E. The cut ends of Optic Nerve Invasion (ONI) with tumor cells were seen in 31.7%; one patient with intracranial invasion was referred after admission. According to the International Retinoblastoma Staging Working Group pathology classification, 60% of tumors were as Stage PT1. Statistically significant associated was seen between ONI (p=0.011) and extraocular invasion (p-0.020) with age, histopathology revealing poorly differentiated cells with leukokoria; choroidal invasion with proptosis (p-0.004) and secondary glaucoma (p-0.003); extraocular invasion with leukokoria (p-0.000) and glaucoma (p-0.000); advanced histopathology stage with orbital invasion (p-0.005). After a minimum of two years follows up, recurrence was 7.5%. Proptosis (p=0.001), ONI (p=0.046), advanced stage (p=0.003), cell type (p=0.027) and age (p=0. 009) was significantly associated with recurrence of tumor.

Conclusions: A positive histopathological association was seen with age, proptosis, and glaucoma. Advanced disease, proptosis, optic nerve cut end infiltration and tumor stage showed positive associations with recurrence.

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