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Case Report

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EYE BALL MENINGIOMA- A RARE CASE REPORT

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ABSTRACT

Introduction: Meningiomas account for approximately 4% of all intraorbital masses and fall into 2 broad categories. Primary lesions are derived from cell lining intraorbital or intracanalicular (less commonly) segments of optic nerve. Secondary intraorbital meningiomas arise intracranially. **Case History:** A 35 year male, farmer, presented with swelling in right eyeball since last 3-4 yrs. Local examination showed protrusion of right eyeball with swelling of eyelid. Plain CT scan of orbit revealed expansile mass of 4 x 3 cm in right orbit with extension into lateral and inferior compartment. Patient underwent right eye exenteration. Grossly, eye ball measuring 5x4cm was received. Cut surface, showed a grey-white friable tumor. Microscopically, section from tumor showed spindle shaped cells forming fascicular pattern. A diagnosis of right eye ball Meningioma-predominantly fibroblastic was made. **Conclusion:** The WHO meningioma classification scheme attempts to predict that which tumors are most likely to recur, placing those lesions into grade 2(atypical) or grade 3(malignant) categories.

INTRODUCTION

Meningiomas are neoplasms exhibiting morphologic or immunophenotypic evidence of origin from meningothelial cells which are specialised elements that populate arachnoid membrane and cap arachnoid villi associated with intradural venous sinuses and their tributaries. Meningiomas account for approximately 4% of all intraorbital masses.[1] Primary lesions are derived from cells lining intraorbital or intracanalicular (less commonly) segments of optic nerve. They represent most common tumor of optic nerve sheath.[2] Secondary intraorbital meningiomas arise intracranially and extend into orbit.

Meningiomas may be seen in childhood or adolescence but are mostly seen in middle or later adult life. Intraorbital meningiomas are identified most frequently in middle aged females.[3] Some studies suggest a particularly increased prevalence in women with mammary carcinoma.[4] Clinical features vary depending on site of tumor. Painless, progressive visual loss is most common presenting complaint in patient whose tumor arise from nerve sheath. Proptosis or other mass effects are common in secondary intraorbital meningioma cases.

The usual presentation of orbital tumors is that of progressive visual failure associated with proptosis.[5,6]

CASE HISTORY

A 35 year male, farmer by occupation presented with swelling in right eyeball since last 3-4 yrs. There was no vision in right eye since birth. There was history of trauma 4 yrs back and swelling developed thereafter, before that eye was normal in shape and size. Swelling was progressive in nature and patient also complained of pain. It was not associated with loss of consciousness, seizure and vomiting. Local examination showed protrusion of right eyeball with swelling of eyelid covering the eyeball.Normal sclera and cornea were not seen, no discharge was present. Plain CT scan of orbit revealed expansile mass of 4 x 3 cm in right orbit with extension into lateral and inferior compartment and displacing optic globe superiorly. MRI brain showed no significant abnormality detected in brain. Patient underwent right eye exenteration. Grossly, eye ball measuring 5x4cm was received. Cut surface, showed a grey-white friable and firm tumor, involving whole of anterior and posterior chambers. It appeared to be reaching just below choroid. Optic nerve could not be identified. Microscopically, section from tumor showed spindle shaped cells forming fascicular pattern and variably collaginised stroma.These cells were seen invading iris and choroid. A diagnosis of right eye ball Meningioma-predominantly fibroblastic was made.

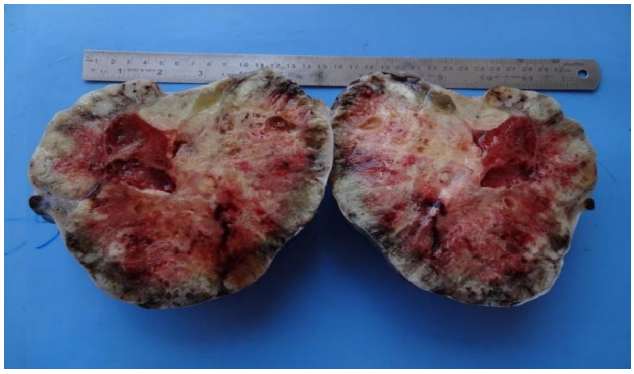

Figure1: Grossly, Grey white friable tumor.

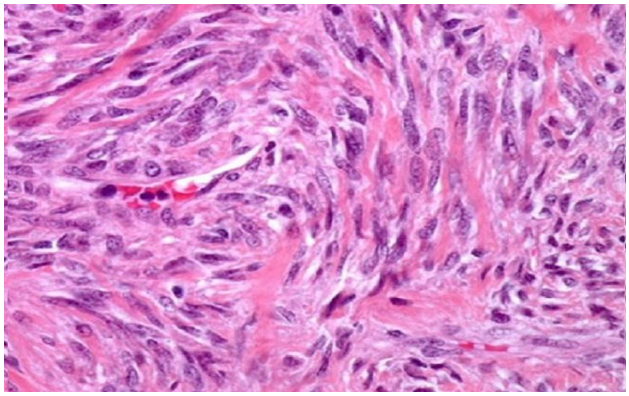

Fig2: Spindle shaped cells showing fascicular pattern.

DISCUSSION

The clinical syndrome of progressive unilateral visual failure, with or without proptosis may be produced by a wide range of intra orbital disorders. WHO broadly stratifies meningothelial tumors into three tiers of increasing biologic potential - meningioma (WHO grade 1), atypical meningioma (WHO grade 2) and anaplastic meningioma (WHO grade 3). Meningiomas are most frequently of meningothelial or transitional subtypes and are WHO grade 1. Fibroblastic meningiomas also fall into WHO grade 1.Of particular diagnostic utility is the observation that a large majority of meningiomas exhibit (at least focally) membranous, as well as diffuse cytoplasmic immunolabelling for EMA.[7] Nuclear immunoreactivity for progesterone receptors is common.[8] CK 18 is positive and CK 20 is negative regardless of histologic pattern.[9] Meningiomas of conventional histologic types grow slowly and are amenable to surgical cure when complete excision can be effected. In a study, 5-,15-, and 25- year relapse rates for histologically benign and completly excised intracranial meningiomas were 3%, 15%, and 21%.[10]Treatment options focus on removing the tumor and relieving the compression on brain.

CONCLUSION

Most meningiomas are benign and slow growing however, some can be malignant. Intraorbital Meningiomas are generally benign, WHO grade 1 tumors, associated with prolonged, recurrence free survival, but a subset are clinically more aggressive. Intra orbital meningiomas can rarely invade ocular structures such as optic disc , retina or choroid.[11] Studies show that there is association of multifocal meningiomas with type2(central) neurofibromatosis, the genetic locus for which resides on chromosome 22q12.[12] The WHO classification scheme attempts to predict that which tumors are most likely to recur, placing those lesions into grade 2(atypical) or grade 3(malignant) categories.

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