Orbital tumor

A wide variety of space occupying lesions may be encountered in the orbit.

The term “orbital tumors” includes diverse benign or malignant space-occupying lesions of the orbit, often leading to dystopia of the eyeball, motility disturbances, diplopia, visual field defects, and sometimes a complete loss of vision.

Diagnosis

CT and MR imaging frequently help confirm the presence of a mass and define its extent. Characteristic imaging features may help distinguish among lesions that have overlapping clinical presentations.

Common vascular lesions include: capillary (infantile) hemangioma, cavernous hemangioma (solitary encapsulated venous-lymphatic malformation), and lymphangioma (venous-lymphatic malformation).

Benign tumors include: optic nerve sheath meningioma, schwannoma, and neurofibroma.

Malignancies include: lymphoma, metastases, rhabdomyosarcoma, and optic glioma [1)].

Treatment

Removing these tumors in a limited surgical field is challenging. Therefore, the preservation of function is a primary concern.

Retrospectively reviewed 671 patients with orbital tumors from October 1999 to June 2014. Diagnosis on referral, presenting symptoms, radiological records, histology of the primary tumor or orbital metastases, and treatment choice were analyzed. Among the 671 orbital tumors, 40% were accessed anteriorly, 36% via an orbitotomy with temporary osteotomy, and 23.9% underwent an orbital exenteration. As an illustration of the operative strategies with subsequent reconstructions, a distinction was made among the main indication groups: (1) function-preserving therapy for retrobulbar tumors, (2) malignant tumors of the conjunctiva and the eyelids, (3) exenteration of the orbit and subsequent reconstruction, and (4) operative and therapeutic strategy for orbital metastases. Adequate preoperative use of modern imaging techniques and thorough planning of the operation are crucial. Accurate histopathological diagnosis is crucial for planning appropriate therapeutic and surgical interventions. New innovative treatment concepts and surgical techniques arise from the close cooperation of related disciplines such as ophthalmology and neurosurgery. Although an orbital exenteration in patients with eyelid and conjunctival carcinomas can now often be avoided, eye-preserving treatment for locally advanced carcinomas of the conjunctiva and eyelid must be attempted. For extensive orbital malignancies, orbital exenteration is curative. In this context, primary closure of the orbit can improve the patient's quality of life and avoid subsequent complications. Concerning orbital metastases, early diagnosis can preserve function and fulfil the esthetic demands of the patients. In palliative tumor disease, operative procedures such as orbital

decompression or tumor debulking can reduce patient complaints and contribute to improved quality of life [2].

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Khan SN, Sepahdari AR. Orbital masses: CT and MRI of common vascular lesions, benign tumors, and malignancies. Saudi J Ophthalmol. 2012 Oct;26(4):373-83. doi: 10.1016/j.sjopt.2012.08.001. PubMed PMID: 23961022; PubMed Central PMCID: PMC3729513.
2)
Pförtner R, Mohr C, Daamen J, Metz A. Orbital tumors: operative and therapeutic strategies. Facial Plast Surg. 2014 Oct;30(5):570-7. doi: 10.1055/s-0034-1395210. Epub 2014 Nov 14. PubMed PMID: 25397713.