**Brief Communications**

**Orbital Chondroma: A rare mesenchymal tumor of orbit**

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While relatively common in the skeletal system, cartilaginous tumors are rarely seen originating from the orbit. Here, we report a rare case of an orbital chondroma. A 27-year-old male patient presented with a painless hard mass in the superonasal...
quadrant (SNQ) of left orbit since 3 months. On examination, best-corrected visual acuity of both eyes was 20/20, with normal anterior and posterior segment with full movements of eyeballs and normal intraocular pressure. Computerized tomography scan revealed well defined soft tissue density lesion in SNQ of left orbit. Patient was operated for anteromedial orbitotomy under general anesthesia. Mass was excised intact and sent for histopathological examination (HPE). HPE report showed lobular aggregates of benign cartilaginous cells with mild atypia suggesting of benign cartilaginous tumor - chondroma. Very few cases of orbital chondroma have been reported in literature so far.

**Key words:** Benign cartilaginous tumor, orbital chondroma, orbitotomy

Chondroma is a benign cartilaginous tumor. Theoretically, a chondroma should not occur in membranous bones such as those of the orbit. Only the body and lesser wing of the sphenoid bone have any notable derivation from cartilaginous precursors, and the trochlea is the only purely cartilaginous structure in the orbit. Chondromas are usually asymptomatic except for either a palpable or visual mass, but sometimes increase in the size can lead to ptosis and proptosis. After complete resection, the patient should be followed up and watched carefully for malignant degeneration though the rate of malignant transformation in solitary chondroma is still controversial.

**Case Report**

A 27-year-old male patient presented to us with painless hard mass in superonasal quadrant (SNQ) of left orbit for 3 months which had progressively increased in size during 1-month associated with drooping of upper lid of left eye for 20 days [Fig. 1]. The patient has no significant past, personal, systemic and family history.

On examination, best corrected visual acuity was 20/20 in both eyes. Intraocular pressure in both eyes was OD-13 and OS-14 by Perkins applanation tonometer. Anterior segment and posterior segment of both eyes were normal except for approximately 2 mm downward and 2 mm outward dystopia of left eyeball. Full movements of both eyeballs were noted. Exophthalmometry of both eyeballs measured by Hertel’s exophthalmometer were OD-14 mm and OS-15 mm and interpupillary distance was 62 mm.

Computerized tomography scan report showed approximately 13 mm × 14 mm sized well defined minimally enhancing soft tissue density lesion in SNQ of left orbit. The lesion was found in extraconal compartment causing downward and outward displacement of the left eyeball. Scalloping and erosion of the lateral wall of left frontal sinus were noticed [Fig. 2].

Patient was operated for left-sided anteromedial orbitotomy through lid crease approach under general anesthesia. Though mass was found to be adherent to the bone, it was separated in toto by blunt dissection and sent for histopathological examination. Intraoperative and postoperative course were uneventful.

On gross examination, mass was a well-circumscribed nodule measuring 1.5 cm × 1.8 cm, having glistening white multilayered appearance [Fig. 3]. Microscopical examination revealed a multilobulated lesion composed of cytologically benign appearing spindle cells. The tissue was composed of round to ovoid nuclei in lacunar spaces suggesting cartilaginous differentiation with little pleomorphism and no mitotic figures [Fig. 4]. Immunohistochemical studies were positive for S-100 protein consistent with a cartilaginous tumor and for vimentin, consistent with a mesenchymal lesion, suggesting benign cartilaginous tumor - chondroma. Patient was symptomatically better 1 month post operatively [Fig. 5].

Patient was advised to follow-up after 6 months or in case of recurrence of symptoms.

**Discussion**

Chondromas of head and neck are extremely rare with an estimated 10% occurrence in this region. The sites of predilection in the head and neck region include ethmoid sinus (50%), maxilla (18%), nasal septum (17%), hard palate and nasopharynx including sphenoid sinus (6% each), and alar cartilage (3%).

Though chondroma belongs to cartilaginous structure, it can develop from the nest of growth plate cartilage that have become entrapped in the medullary canal and lead...
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Garrity and Henderson[2] and Shields et al.[3] had reported only one case out of 1373 and 627 total mesenchymal orbital tumors respectively. Study of the incidence of primary orbital bone tumors conducted by Rootman and Connell et al.[4] revealed only one case of chondroma out of 62 primary orbital bone tumors over a period of 24 years.

Overall, the incidence of chondroma peaks during the sixth decade of life.[5] However, in the facial skeleton, chondroma generally occurs during adolescence and early adulthood as seen in our case.[6] Faber et al.[7] and Pasternak et al.[8] also reported orbital chondromas in 19-year-old male and 25-year-old woman respectively. However, Harrison et al.[9] has also reported an orbital chondroma in 9-year-old boy.

Recognizing a chondroma as a benign lesion can be challenging. According to Batsakis et al.,[10] histopathological distinction between a chondroma and a low grade chondrosarcoma is notoriously difficult as many of the fine structural features of low-grade chondrosarcoma cells are also found in cells of normal hyaline cartilage. Spjut et al. (1970) pointed out that because of many of the well-differentiated tumors were erroneously diagnosed as benign cartilaginous neoplasms, multiple blocks from cartilaginous tumors should be examined since areas diagnostic of chondrosarcoma may be noted only focally.

Chondrogenic tumors of the facial skeleton also show aggressive behavior. Because of the discrepancy between the histological picture and biologic behavior, chondrogenic neoplasm should be considered potentially malignant.[11] Hence wide surgical excision should be considered as the treatment of choice. Benign cartilaginous tumors are radio resistant, but radiotherapy may be offered for the treatment of primary and recurrent malignant cartilaginous tumors.

As chondroma has a tendency to sarcomatous change, even in histopathologically proven benign tumors a long-term follow-up is strongly advised. The prognosis of such tumors is good, and recurrence is uncommon with appropriate treatment.[12]

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References


Exudative retinal detachment following strabismus surgery in Sturge–Weber syndrome
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A 15‑year‑old boy with Sturge–Weber syndrome underwent strabismus surgery (oculus sinister [OS]) for the treatment of exotropia. The patient's visual acuity (OS) decreased to hand motion 10 days after the surgery. One month after the surgery, the patient's visual acuity decreased to light perception, and a fundus examination showed total exudative retinal detachment (OS).

Key words: Retinal detachment, strabismus, Sturge–Weber syndrome

Sturge–Weber syndrome (SWS) has ocular complications such as glaucoma, diffuse choroidal hemangioma, and buphthalmos. Diffuse choroidal hemangioma can lead to an exudative retinal detachment (ERD) and it may be triggered by glaucoma surgeries such as trabeculectomy and deep sclerotomy.¹,²

We report the case of a patient with SWS and diffuse choroidal hemangioma who underwent uneventful strabismus surgery by an experienced surgeon; however, he suffered the complications of ERD.

Case Report

A 15‑year‑old boy with SWS underwent recession of the lateral rectus muscle (oculus sinister [OS], 7.7 mm), resection of the medial rectus muscle (OS, 6.0 mm) and infratransposition of the horizontal muscle with 1/4 tendon width (OS) for the treatment of 30 prism‑diopter sensory exotropia. The patient had port‑wine stains (hemangioma) on the left side of his upper lid and forehead [Fig. 1a] and angiomatous lesions involving the left occipito‑temporo‑parietal area. The patient had laser therapy for the treatment of the port‑wine stains on his skin. Six years before the surgery, choroidal hemangioma and optic disc cupping enlargement were both identified on a fundus examination (OS) [Fig. 1b], and latanoprost ophthalmic solution (Xalatan®; Pfizer Inc. NY, USA) was applied to the afflicted left eye. The patient's preoperative best corrected visual acuity (BCVA) was 1.0 (+0.50 diopter sphere/−0.50 dipopter cylinder ×180°) and 0.125 (−0.5 diopter sphere/−2.25 diopter cylinder ×180°) oculus dexter and OS, respectively. The BCVA (OS) decreased to hand motion 10 days after the surgery. One month after the surgery, the BCVA decreased to light perception; a slit lamp and fundus examination showed total ERD (OS) [Fig. 2a]. B‑scan ultrasonography revealed ERD with a huge dome‑shaped choroidal hemangioma [Fig. 2b].

Pars plans vitrectomy (PPV) with internal drainage of the subretinal fluid (SRF), fluid‑gas exchange, endolaser photocoagulation, intravitreal bevacizumab injection and silicone oil tamponade was performed. Eight days after the PPV, the BCVA was finger count 10 cm and some SRF on the macula remained.

Discussion

Diffuse choroidal hemangioma can develop into a severe ERD, which can be induced by glaucoma surgery.¹,³,⁴