SCHWANNOMA OF MAXILLARY SINUS

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Key Words: Schwannoma, Maxillary sinus.

INTRODUCTION
Neurilemmoma and neurofibroma are benign neoplasms of the nerve tissue. Schwannoma (neurilemmoma) arise from the schwann cells of the nerve sheath of peripheral or sympathetic nerves. The aetiology is still unknown and the histogenesis remains a controversial argument. The diagnosis is confirmed by the microscopic examination of the biopsy specimen.

Schwannomas occurring in head and neck region are frequent, with 25-45% of all reported schwannomas being found in this region (Putney et al., 1964; Batsakis, 1979). After reviewing the literature, Donnelly et al. (1992) found only 32 cases of schwannomas occurring in paranasal sinuses. We reviewed the literature and found that only fourteen schwannomas of the paranasal sinuses involved the maxillary sinus and only 5 cases were solely arising from the maxillary sinus. We describe another case of schwannoma arising primarily from the maxillary sinus extending into the orbit.

CASE REPORT
A 17 year old male presented with the only complaint of bulging of left eyeball, as noticed by his schoolmates, for two years. Bulging of the eyeball was static, painless and without any difficulty in vision. There was no history of trauma, nasal blockage, epistaxis or fever, throughout that period.

Examination revealed slight fullness in the left maxillary region and proptosis of left eye (Fig. I). There was firm, nontender mass palpable in the floor of left orbit just posterior to the inferior orbital margin. There was no abnormality found on ear, nose and throat examination. Visual acuity, visual field and eyeball movements were normal. There was no regional lymphadenopathy. Computed Tomography (CT) scan of nose and paranasal sinuses showed a mass in the left maxillary antrum (Fig. II), eroding the floor of the orbit and pushing the intra-orbital stuctures, giving the mass a dumb-bell shape (Fig. III). The nasal cavity, sinuses and other adjacent structures were not involved by the mass.

The patient underwent surgical excision of the tumor through Caldwell-Luc approach, by making a large window in the anterior wall of left maxillary sinus. Preoperatively there was well encapsulated mass which was firm with areas of cystic consistency and was found free from the walls of the antrum except the anterior wall. The mass was found attached to the floor of the orbit. A piece of bone from the orbital floor was sacrificed for en-bloc removal of the dumb-

![Fig. I: Fullness in the left maxillary region with proptosis of left eye](image)

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Fig II Axial CT scan of nose and paranasal sinuses showing mass in the left maxillary antrum, originating from the anterior wall.

Fig III Coronal CT scan of nose and paranasal sinuses showing a mass in left maxillary sinus eroding the floor of the orbit giving the mass a dumb-bell shape.

Fig IV Photomicrograph - Bundles of nerve fibers interspersed with numerous foamy macrophages (H & E; x75)

Fig V. Photomicrograph of histology - Bundles of nerve fibers interspersed with foamy macrophages and mononuclear inflammatory cells with foreign body giant cells and increased number of capillaries (H & E, x750)

DISCUSSION

The histological examination of the biopsy specimen revealed bundles of nerve fibres interspersed with numerous foamy macrophages and mononuclear inflammatory cells along with foreign body giant cells and increased number of capillaries. There was no evidence of malignancy. The diagnosis of schwannoma undergoing secondary degeneration and inflammation was made (Fig. IV and V).

The term 'Schwannoma', has been attributed in the past either for neurofibroma and neurilemmoma. Their histogenesis remains a controversial argument. Some authors think that both tumors originate from schwann cells and perineural connective cells. Others think that the first one originate from perineural cells while the latter from schwann cells. It was first described by Verocay, in 1908, who believed that the neoplasm arises from the nerve sheath.

Schwannoma is a solitary encapsulated neurogenic tumor that originates from schwann cells of the nerve sheath. Head and neck are one of the most frequent sites, with lateral cervical region and the mouth being the most common sites; but origin from nose and paranasal sinuses is quite uncommon (Batsakis, 1979). The neoplasm may develop at any age and there is no sex predilection. In the nose and paranasal sinuses, these tumors arise from intranasal nerves, ophthalmic and maxillary branches of trigeminal nerve and branches of the autonomic nervous system (Batsakis, 1979). Schwannomas do not arise from the olfactory nerve as it contains no schwann cells. The nerve of origin is usually not identifiable.

Schwannomas are slow-growing neoplasms and are usually asymptomatic till they attain large size and become...