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Case Report

Palpebral schwannoma as an uncommon differential diagnosis in solid eyelid lesions

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ABSTRACT

Schwannoma (neurilemmoma) is a rare benign tumor that originates from Schwann cells of peripheral nerves, accounting for approximately 0.1 to 0.7% of eyelid tumors. The occurrence of schwannoma in the eyelid is extremely rare, with very few cases reported in the literature to date. These tumors are typically solitary, asymptomatic, and slow-growing, which can make early diagnosis challenging. Clinically, they present as solid eyelid masses without skin involvement and can be mistaken for other conditions such as inclusion cysts, recurrent chalazia, or other types of tumors. A definitive diagnosis is obtained through histopathological and immunohistochemical studies. The treatment of choice is complete surgical excision, which generally has a favorable prognosis with a low recurrence rate. This case highlights the importance of always considering schwannomas in the differential diagnosis of any solid eyelid lesion.

Keywords: Eyelid tumors, Benign eyelid tumors, Schwannoma, S-100 protein, Eyelid swellings

INTRODUCTION

Schwannoma is a benign tumor that arises from Schwann cells in the sheath of peripheral nerves. In the eyelid region, they are rare and typically arise from branches of the trigeminal nerve (cranial nerve V), specifically the supraorbital, supratrochlear, and infraorbital nerves.[1] To date, according to various authors, the incidence of schwannomas in this anatomical region is very low-between 0.1 and 0.7% of eyelid tumors.[1,2] It was once thought to be exclusive to adults, but cases in children have now been reported.[3,4] Its occurrence is sporadic.

This tumor type does not have pathognomonic semiological features, and a definitive diagnosis is made through histopathological examination, which microscopically shows very compact spindle cells (Antoni A) and large, round, clear cells (Antoni B). Immunohistochemistry is also used, with positivity for S-100 protein being a characteristic finding.[5,6] Clinically, it presents as a single, solid, asymptomatic, non-invasive

tumor, with no skin involvement, slow growth, and progressive development. It may be mistaken for other pathologies such as inclusion cysts, recurrent chalazia, benign tumors like hidrocystomas, and malignant tumors.[5,7,8]

However, the presence of multiple schwannomas in a single individual could be associated with neurofibromatosis type II, in which only a few cases of malignant transformation have been reported.[6] The treatment of choice is complete surgical excision, which generally results in a favorable prognosis with a low risk of recurrence. Incomplete excision has been associated with recurrence and increased tumor aggressiveness.[9] To date, there have been no reported cases of malignant transformation in solitary palpebral schwannomas.[9,10]

CASE REPORT

We present the case of a 49-year-old man who presented with a 3-year history of a painless, slow-growing mass on the right lower eyelid, resulting in noticeable swelling. The patient reported no ophthalmological symptoms. On ocular examination, visual acuity was 20/20 in both eyes, with no abnormalities in the anterior segment or fundus.

A firm, non-tender nodule was palpated, approximately 2×1.2×1 cm in size, with regular borders, on the right lower eyelid. The eyelid skin appeared normal with no visible changes. The tarsal conjunctiva also appeared normal (Figure 1).

A CT scan of the orbit was requested, which revealed a well-defined, homogeneous mass approximately 2 cm in size, located in the preseptal space of the right orbit. The lesion had a density similar to that of brain tissue and muscle bellies. No associated expansive or lytic bone lesions were observed (Figure 2).

With a clinical diagnosis of a benign eyelid tumor, an excisional biopsy was performed via anterior dissection using a subciliary approach. Postoperative recovery was uneventful. The macroscopic histopathological examination revealed that the lesion was a brownish fragment measuring 1.8×1.2×1 cm, non-cystic (Figure 3).

Microscopically, the histopathological examination showed a well-defined lesion composed of interlacing bundles of spindle cells with biphasic morphology-compact Antoni A areas with scarce Verocay body formation, alternating with loosely arranged Antoni B areas, which were less abundant (Figure 4). Immunocytochemistry for S-100 protein was strongly positive.

These findings confirmed the diagnosis of schwannoma (neurilemmoma). The patient recovered without complications. No evidence of recurrence was observed after 6 months of follow-up.

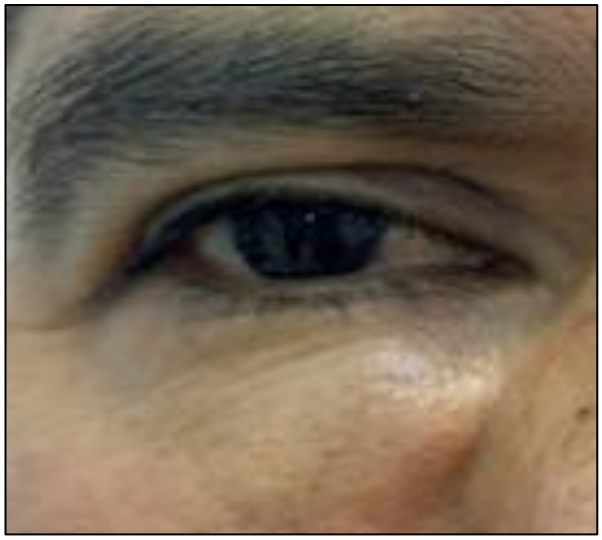

Figure 1: Firm, non-tender nodule approximately 2×1.2×1 cm in size, with regular borders, located on the right lower eyelid.

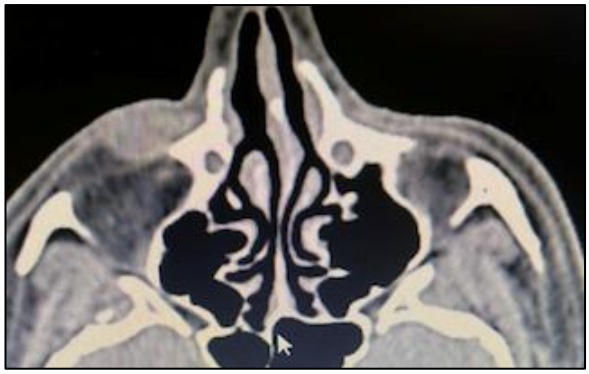

Figure 2: Homogeneous lesion with well-defined borders, approximately 2 cm in size, located in the preseptal space of the right orbit.

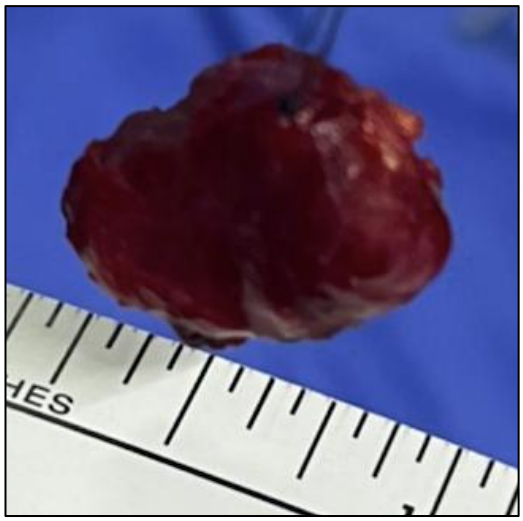

Figure 3: Solid lesion measuring 1.8×1.2×1 cm from the lower eyelid.

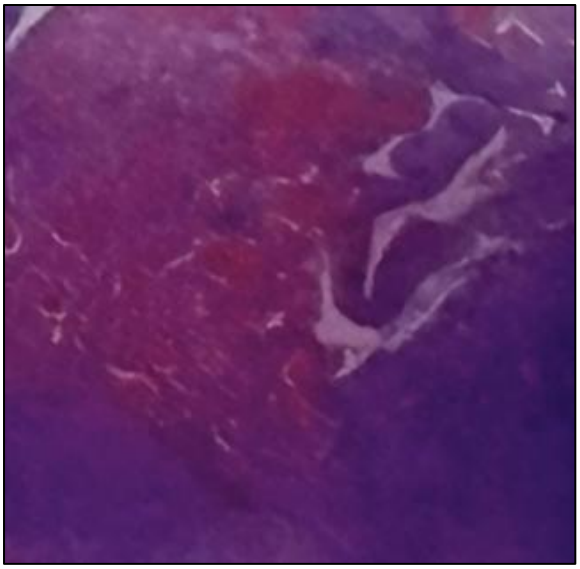

Figure 4: Spindle cells with biphasic morphology-compact Antoni A cells with sparse Verocay body formation, alternating with loosely arranged Antoni B areas.

DISCUSSION

Eyelid schwannomas are rare tumors derived from the Schwann cells of peripheral nerves, and their diagnosis can be challenging due to clinical similarities with other eyelid masses such as inclusion cysts, chalazia, or hidrocystomas.[1,2] In our case, the tumor was initially suspected to be a benign lesion due to its asymptomatic nature, slow growth, and lack of skin changes-features commonly reported in the literature.[4,5]

Imaging studies, although not specific, may aid in preoperative assessment. Our patient's CT findings of a well-defined, homogeneous preseptal lesion were consistent with prior case descriptions where schwannomas typically appear as solid, non-invasive masses.[7] The definitive diagnosis was made via histopathology, which remains the gold standard. Our findings of biphasic Antoni A and B areas, with S-100 positivity, match previous descriptions in surgical pathology literature.[6]

The clinical course in our patient-marked by successful excision with no recurrence after 6 months-supports existing evidence that complete surgical excision yields excellent outcomes.[9,10] However, literature also warns of recurrence in cases of incomplete resection, emphasizing the importance of total excision.[9] Compared to other reports, our case further underscores the importance of considering schwannoma in the differential diagnosis, particularly when encountering atypical eyelid masses with slow progression and minimal symptoms.[3,8]

CONCLUSION

Given the rarity of this condition, it is essential that ophthalmic surgeons include schwannoma in the differential diagnosis of solid eyelid lesions, particularly those that are slow-growing and asymptomatic. Timely identification and treatment are key to preventing complications and ensuring both functional and cosmetic outcomes that are satisfactory for the patient.

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