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Case Report

Asymptomatic Schwannoma of the Inferior Turbinate: A Case Report and Literature Review

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Schwannoma rarely involves the sinonasal tract and inferior turbinate involvement is very rare. Usually it is symptomatic and surgical excision is a successful treatment. Here we presented an incidentally discovered inferior turbinate schwannoma in an asymptomatic middle age female patient. Along with a high index of suspicion, radiological evaluation followed by a biopsy is needed to diagnose this disease as well as any unilateral nasal mass. More cases of incidentally diagnosed schwannoma may rise in the era of rapidly advancing medical technology and extensive radiological workup.

Keywords: ***Schwannoma of inferior turbinate, Neurilemmoma of inferior turbinate, Nasal schwannoma.***

INTRODUCTION

Neurilemmoma, more commonly called schwannoma, is an example of benign peripheral nerve sheath tumors.
These tumors rarely involve the sinonasal tract and inferior turbinate involvement is very rare. Typically, schwannoma manifests macroscopically as a solitary well-circumscribed tumor and microscopically with biphasic histologic pattern of Antoni A and Antoni B areas.[1-4] Here we presented an incidentally discovered inferior turbinate schwannoma in an asymptomatic middle age female patient.

CASE REPORT

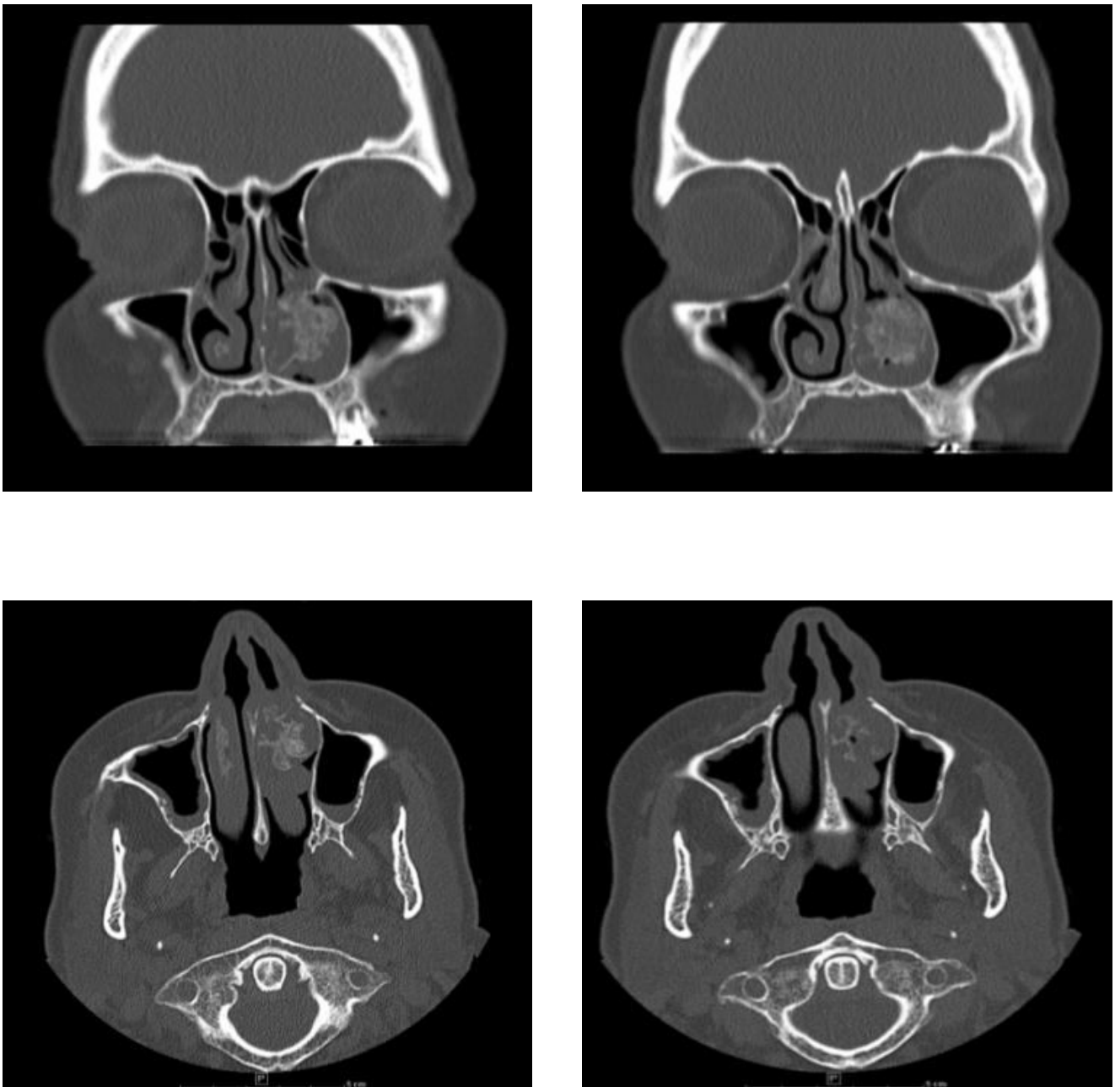
This is a 57 years old lady who was referred to ENT clinic by the oncology team, when she was found incidentally to have a left sided nasal mass on a routine staging workup for a left sided infiltrating ductal breast carcinoma. Patient was asymptomatic for the mentioned nasal mass. No history of nasal obstruction, nasal discharge, epistaxis, facial pain, or anosmia.

Physical examination showed a well-circumscribed, smooth, pale, non-tender nasal mass originating from left inferior turbinate and touching the septum. Ears, eyes, throat, and neck examination was unremarkable.

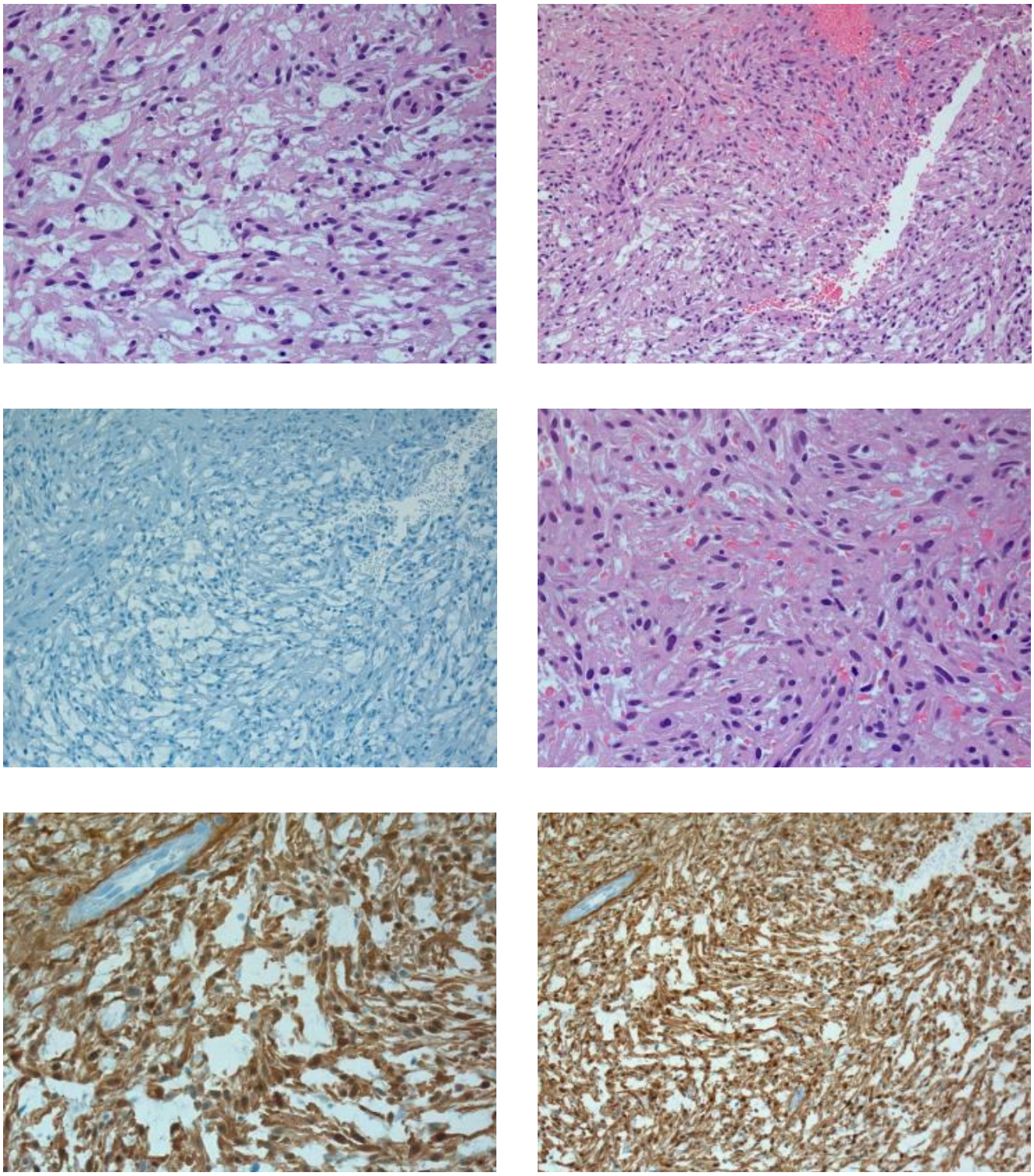
Computed Tomography (CT) scan of paranasal sinuses showed a 2.5cm x 1.9cm x 1.5cm ossified mass arising from the left inferior turbinate with mucosal thickening in the sinuses (Figs. 1-4).

Endoscopic excision of the nasal mass was done. Histopathological examination of the excised mass revealed: Antoni A and Antoni B areas. The spindle-shaped cells were positive for vimentin (V9) and S-100 protein, with weak reactivity for epithelial membrane antigen (EMA) E29, and weak focal expression for anti-apoptotic protein Bcl-2 (Figs. 5-10). The described picture is diagnostic of schwannoma. There were no features of malignancy.

Later on, she received neoadjuvant-chemotherapy followed by breast lumpectomy with axillary lymph node dissection followed by radiotherapy for the breast carcinoma.
We followed the patient and there was no recurrence for the nasal mass after one year.



Figs 1-4. Two coronal and two Axial CT scan sinuses views (non-contrasted, soft tissue window) show a 2.5cm x 1.9cm x 1.5cm ossified mass arising from the left inferior turbinate and associated with mucosal thickening.



Figs 5-10. Histopathology slides show Antoni A and Antoni B areas. The spindle-shaped cells are positive for vimentin (V9) and S-100 protein, with weak reactivity for EMA (E29), and weak focal expression for anti-apoptotic protein (Bcl-2).

DISCUSSION

Despite their common involvement of the head and neck region, benign peripheral nerve sheath tumors rarely involve sinonasal tract.[5] Since 1970's, the use of specific terms (schwannoma, neurofibroma, and solitary circumscribed Neuroma) was suggested rather than grouping all as benign peripheral nerve sheath tumors. This discrimination was suggested due to the significant differences especially regarding the risks of malignant changes and of associated neurofibromatosis.[4]

Neurilemmoma, more commonly called schwannoma, is an example of these benign peripheral nerve sheath tumors. Usually, Schwannoma manifests as a solitary well-circumscribed tumor. They are encapsulated and push the nerve axons aside without entrapment of the nerve axons, so the nerve is usually preserved during the surgery. Biphasic histologic pattern of Antoni A and Antoni B areas is the typical microscopic manifestation. Antoni A area is of a high cellular density and composed of palisading spindle-shaped Schwann cells surrounding an acellular central region, where Antoni B area is of a lower cellular density and forms no distinctive pattern.[1-4]

Only 4% of head and neck schwannomas are located in sinonasal tract, including paranasal sinuses, nasal septum, turbinates, nasopharynx and olfactory groove.[6-7] Intranasal schwannomas that originate from the inferior turbinate are extremely rare. To the best of our knowledge, only four cases of inferior turbinate schwannoma were reported to date in the English literature.[2-3]

Usually patients are adults with no gender predilection.[5,8] Symptoms depend on the site of involvement. Nasal obstruction, epistaxis and headache are the usual symptoms for nasal schwannomas.[3,9]

Radiological evaluation, including CT scan and probably magnetic resonance imaging (MRI), is needed to evaluate for the disease extent as well as the adjacent anatomy. On MRI, schwannomas typically enhance with gadolinium contrast. They usually have an intermediate intensity on T1-weighted signals and intermediate to high intensity on T2-weighted signals.[9-10]

Differential diagnosis is wide and includes benign and malignant nasal diseases. Fine needle aspiration cytology (FNAC) may have a role in the diagnosis of lesions in the nasal cavity and paranasal sinuses.[11] Definitive diagnosis is made by histopathology.

Complete surgical excision is the treatment of choice and many authors prefers endoscopic approach for schwannoma excision. If removed completely, recurrence is rare.[9,12,13]

Malignant schwannoma and malignant transformation of benign schwannoma in the sinonasal tract are very rare with variable outcome after wide surgical excision with adjuvant radiotherapy.[14-16]

More cases of incidentally diagnosed schwannoma may rise in the era of rapidly advancing medical technology and extensive radiological workup.

CONCLUSION

Schwannoma rarely involves the sinonasal tract and inferior turbinate involvement is very rare. Usually it is symptomatic and surgical excision is a successful treatment. Here we presented an incidentally discovered inferior turbinate schwannoma in an asymptomatic middle age female patient. Along with a high index of suspicion, radiological evaluation followed by a biopsy is needed to diagnose this disease as well as any unilateral nasal mass.

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