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NASAL SCHWANNOMA -A CASE REPORT

Pathology

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ABSTRACT

Schwannomas are benign tumor of nerve sheath origin. They may occur throughout the body but head and neck region is most commonly affected (45%). Sinonasal schwannomas are uncommon representing 4% of head and neck schwannomas. Here we report a case of nasal schwannoma in 20 year old male who presented with history of nasal blockage and rhinorrhea since one and half years.

KEYWORDS

Nerve sheath, Schwannoma, Nasal cavity

INTRODUCTION

Schwannomas are benign, slow growing, encapsulated neoplasm of neural origin. Stout coined the term neurilemmoma because of origin of schwannomas from schwann cells of nerve sheath. They are commonly seen in head and neck region (45%).[1] Sinonasal tract is rarely involved (4% of all head and neck lesions).[2-4] Surgical resection is treatment of choice.

CASE REPORT

20 year old male presented to ENT opd with one and half year history of progressive bilateral nasal blockage (more towards right) and rhinnorhea. Anterior rhinoscopy revealed polypoidal mass filling the right nasal cavity. It did not bleed on touch. The nasal septum was deviated towards left side and left nasal cavity was clear. CT scan showed well defined, lobulated, heterogenous soft tissue space occupying lesion measuring 4.1x2.6x1.8cm in right nasal cavity. The mass was inseparable from turbinates. It was closely abutting and displacing the septum (Figure 1). The mass was completely excised and sent for histopathological examination.

Gross examination revealed multiple polypoidal soft tissue pieces all together measuring 4x4x2 cm. Microsections examined showed respiratory epithelium lined polypoidal tissue pieces. The subepithelium showed well circumscribed spindle cell neoplasm with vague hypercellular and hypocellular areas. The tumor cells were arranged in interlacing fascicles with nuclear palisading at places and were oval to spindle shaped with wavy nuclei, coarse chromatin and moderate amount of indistinct cytoplasm (Figure 2). At foci bizarre nuclear atypia noted. Thick walled blood vessels, myxoid change and chronic inflammatory cell infiltrate were noted in surrounding stroma. Immunohistochemical analysis of tumor cells revealed diffuse positivity for S-100 and vimentin (Figure 3 & 4 respectively) and focal positivity for CD34. The tumor cells were negative for BCL2, CD99, SMA, desmin and EMA.

The diagnosis of Schwannoma was made keeping in view the histological and immunohistochemical findings.

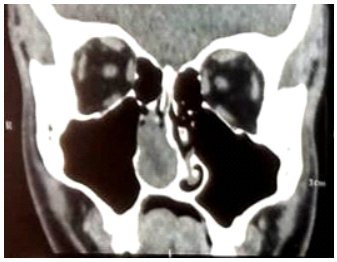

Figure (1): CT revealed well defined, lobulated, heterogenous soft tissue space occupying lesion in right nasal cavity.

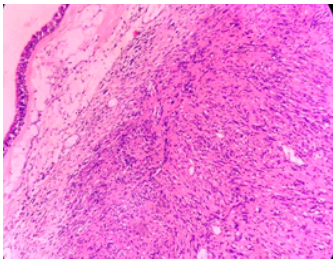

Figure (2): Microphotograph showing spindle shaped cells arranged in short bundles and forming interlacing fascicles with nuclear palisading (H and E; 10X).

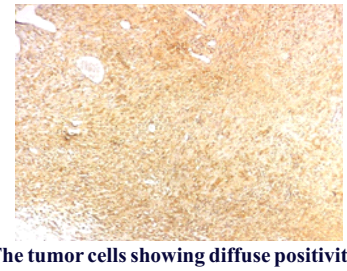

Figure (3): The tumor cells showing diffuse positivity for S-100 (H &E; 10X)

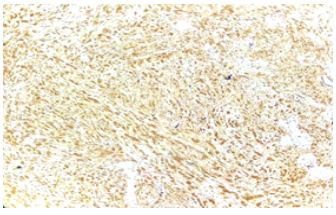

Figure (4): The tumor cells showing diffuse positivity for vimentin (H &E; 10X).

DISCUSSION

Sinonasal schwannomas are quite uncommon tumors constituting 4% of head and neck schwannomas.[2-4] They have been seen in patient between ages of 6 to 78 years. There is no sex and racial predilection.[4] The patients may present with nasal obstruction, epistaxis, rhinorrhea, facial swelling, pain and anosmia.[5] The ethmoidal sinus is most commonly involved which is followed by maxillary sinus and nasal cavity.[6-8] The tumor originates from nerve sheath of trigeminal nerve

and autonomic ganglion.[7] The histological differential diagnosis of schwannoma includes neurofibroma, leiomyoma, glomangiopericytoma, angiofibroma, meningioma, MPNST.[9,10] Neurofibroma is characterised by proliferation of schwann cells (wavy nuclei), axons and fibroblasts. The cells show focal positivity for S-100. In our case, S-100 positivity was diffuse. Leiomyoma shows interlacing fascicles of cigar shaped spindle cells. The cells show positivity for SMA, desmin which were negative in this case. Glomangiopericytoma is also one of spindle cell tumor of sinonasal cavity. The tumor cells are densely packed with small intervening stroma. Staghorn capillaries are characteristic. On immunohistochemistry, cells are positive for SMA and vimentin and negative for CD34, BCL2 and CD99 and S-100. Angiofibroma presents as nasal mass in young males as in present case. It usually bleeds on touch. Histologically it is characterised by stellate and spindle myofibroblast with mast cells. The cells are embedded in hyalinised vascularised stroma. MPNST can be a close mimicker of Ancient schwannomas but absence of fascicular growth, increased mitotic activity and focal positivity for S-100 excludes it.

The treatment is complete surgical excision. Recurrence is rare. There are reports of malignant change in long standing benign schwannoma. So, follow up is necessary.

CONCLUSION

Schwannoma are benign nerve sheath neoplasm that rarely involve nasal cavity. They often present as nasal polyp, so schwannoma should be kept one of the differential by surgeon while dealing with polyps. Histopathology along with ancillary studies remains the gold standard for diagnosis.

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