Sinonasal Tract Meningioma

A 63-year-old Filipino female presented with epistaxis of undisclosed duration. Examination showed a vascular, pulsating, rubbery intranasal mass involving both nasal cavities. The clinical impression was that of a nasal hemangioma. She underwent excision of the tumor and the specimen was sent for histopathologic evaluation.

The specimen consisted of several tan-brown irregular tissue fragments with an aggregate diameter of 2 cm. Microscopic examination showed a cellular spindle cell tumor underneath the respiratory mucosa. (Figure 1) The tumor cells formed a syncytial pattern arranged in whorls that were separated by thin fibrovascular bands. (Figure 2) The cells had round to oval nuclei with nuclear clearing and moderate amount of syncytial cytoplasm compatible with a meningothelial derivation. (Figure 3) There was absence of nuclear atypia, significant mitotic activity and necrosis. Immunohistochemistry studies showed positivity for Epithelial Membrane Antigen (EMA) and Progesterone Receptors (PR) and absence of reaction for Smooth Muscle Actin (SMA) and CD34. (Figure 4) Our diagnosis was sinonasal tract meningioma.

Primary extracranial meningioma of the sinonasal cavity is rare and thus secondary extension from a primary intracranial tumor should be ruled out. It involves a wide age range with no striking gender predilection. Most common symptoms include nasal obstruction, epistaxis, exophthalmos and a mass. Etiogenesis is not completely established and is postulated to arise from meningocytes that are entrapped during closure of midline structures very similar to the development of meningoceles.
Histopathologic examination discloses a spindle cell tumor arranged predominantly in whorls composed of cells showing meningothelial differentiation. Most are histologically grade 1 tumors. Grade 2 and 3 sinonasal tract meningiomas are rare. Histologic differential diagnoses include a glomangiopericytoma, leiomyosarcoma and a solitary fibrous tumor/hemangiopericytoma. Close histologic evaluation with appropriate immunohistochemistry studies point to the correct diagnosis. Meningioma shows strong diffuse positivity with EMA and PR, and is usually negative for other immunohistochemistry markers such as muscle actins (for glomangiopericytoma and leiomyosarcoma), and CD34 (for solitary fibrous tumor/hemangiopericytoma). A diagnosis of primary sinonasal meningioma should not be made if an intracranial mass is identified.

Sinonasal meningiomas are benign tumors with no documented distant metastases. Although recurrences occur in about 30% (mostly due to incomplete excision), metastasis and malignant transformation has not been reported.

**REFERENCES**