Diagnosis and Management of an Ethmoidal Ossifying Hemangioma

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OBJECTIVES

• To develop an understanding of the presentation, clinical course and methods of diagnosis of a slowly growing, osseodestructive nasal mass
• To review preoperative and surgical management techniques for an ossifying hemangioma of the paranasal sinuses

INTRODUCTION

An osseodestructive lesion in the paranasal sinuses raises several diagnostic possibilities. Ossifying hemangiomas are rare tumors, but have been shown to be locally aggressive when present in the temporal bone. Accurate, timely and safe diagnosis is vital for appropriate preoperative planning and surgical resection.

We discuss the case of a woman with a slowly growing left sided nasal mass. The presentation, diagnosis and management of an ossifying hemangioma are reviewed along with recent literature pertaining to the diagnosis and treatment of this rare lesion.

CASE REPORT

A 48 year old woman presented to our clinic with a left medial canthus lesion present for greater than six months. She had noticed recent growth over the previous three months and it had become tender to the touch. She denied nasal congestion or drainage and did not have ocular symptoms or headache. She was otherwise healthy, having only undergone an ovarian cyst removal at a young age. She did not take medications and had no significant exposure to alcohol or tobacco.

On examination a 0.5cm firm bony fixed mass was noted extending from the bridge of her nose towards her left medial canthus. There was no induration, erythema or significant tenderness. Endoscopic exam revealed a soft tissue mass was noted just superior to her middle turbinate. No other lesions were noted and she did not have any appreciable lymphadenopathy.

She underwent a contrast enhanced CT scan which demonstrated a speculated osseodestructive lesion with bony and soft tissue components involving the left nasal bone without intracranial or orbital extension.

An endoscopic biopsy under general anesthesia revealed a proliferative vascular lesion suggestive of a hemangioma. There was no significant bleeding encountered at that time.

Histologically, the lesion consists of a proliferation of numerous small, thin-walled ectatic vascular spaces lined by plump to elongate endothelial cells. The findings are diagnostic of a cavernous hemangioma which is present within a dense fibrotic stroma. There are also scattered trabeculae of woven bone with osteoblastic rimming present throughout the tumor. The latter is an unusual finding, and the lesion is classified as an ossifying hemangioma.

One month later she underwent complete excision of the mass using a combined endoscopic and external approach via a Lynch incision. No pre-operative embolization was necessary. A sagittal saw easily removed the specimen en-bloc and endoscopic exam at the end of the case confirmed complete removal. Her immediate recovery was uneventful and at three year follow up she has no evidence of recurrence and excellent cosmesis.

DISCUSSION

Frequently encountered in children, hemangiomas of the head and neck are often self limited and undergo spontaneous regression by puberty. In the adult population, these lesions are less commonly seen and can be classified as capillary hemangioma, cavernous hemangioma or pyogenic granuloma (lobular capillary hemangioma).

(1) The ossifying hemangioma is an extremely rare entity. It has been described in the adrenal gland and the brain, (2, 3) but has been found more commonly in the head and neck, most commonly in the temporal bone (4-6) and the internal auditory canal. (7) Only 3 reports of such lesions of the paranasal sinuses have been described with one of the inferior turbinate, (8) and one at the maxillary sinus (9) and the frontal sinus. (10) To our knowledge this is the first report of an isolated ethmoidal ossifying hemangioma.

Facial pressure is the most common presenting complaint in patients with an ossifying hemangioma of the paranasal sinuses, although our patient noticed a bony deformity from the lateral canthus as well. Patients rarely present with epistaxis, and if present, it should alert the clinician to consider malignancy in the presence of a nasal mass. While these lesions in the sinuses are not typically malignant, any vascular mass of the sinuses should be biopsied only in a controlled setting and, ideally, with image guidance. Difficult to differentiate from a malignant neoplasm, CT scan is the imaging modality of choice with close inspection of the lesion on bony windows. Differentiating an ossifying hemangioma from an osteoma of the sinus is not usually possible with imaging alone, and tissue is required for a final diagnosis.

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CONCLUSION

• An osseodestructive lesion of the ethmoid sinuses has a broad differential diagnosis, both benign and malignant. Optimal evaluation includes a thorough physical examination and endoscopy. Additionally, a contrast CT scan with fine cuts should be performed.
• Tissue biopsy prior to surgery should be undertaken in a controlled setting.
• Once the diagnosis of ossifying hemangioma is confirmed, en bloc resection is the treatment of choice.

REFERENCES