ABSTRACT

Objective. Chondromyxoid fibroma (CMF) is a rare cartilaginous tumor with benign pathologic features and no metastatic potential. About 5% of CMF lesions arise in the head and neck, and are even less common in the paranasal sinuses. Two cases of CMF originating in the frontal sinus were identified in the literature, and we present a third. It is imperative that CMF be differentiated from chondroblastoma and chondrosarcoma, which can have overlapping features but very different treatment algorithms.

RESULTS

A 45-year-old female presented with progressive blurry vision in her left eye and persistent headache in the left occipital and frontobital regions. She also had drooping of her left upper eyelid and edema of her left eyebrow. CT revealed complete opacification of the left frontal and ethmoid sinuses with hyperexpansion and erosion of bone, Fig. 1. 3-D image reconstruction revealed complete erosion of the medial third of the left superior orbital rim. MRI revealed a T1 hypointense, T2 hyperintense enhancing mass centered in the left frontal sinus with extension into the left anterior ethmoid air cells, Fig. 2. Destruction of the anterior and posterior frontal tables was seen with erosion through the supero medial orbital wall and impingement on the left medial rectus. The mass entered the anterior cranial fossa and abutted the anteroinferior frontal lobe dura. Concern was for a malignant neoplasm, but biopsy revealed a CMF. The patient underwent a combined endoscopic and open bicoronal approach for resection, Fig 3,4.

DISCUSSION

Twenty eight cases were identified, including 6 in patients less than 18 years old, Table 1. A review by McClurg et al. identified 20 of these cases. There were several reports of dural involvement, orbital infiltration and erosion of bone into the cavernous sinus. The nasal septum and ethmoid sinuses were the most frequently reported origin. Presentation commonly included nasal airway obstruction, visual disturbances and headache. On CT, CMF appear as a soft tissue density with frequent expansion of or frank erosion of bone. Gross calcifications are seen roughly 20% of the time. MRI features include low signal intensity on T1 images, contrast enhancement and heterogeneous enhancement on T2 sequences, similar to other cartilaginous tumors. Histologic features include well circumscribed, lobulated tumors with both myxoid and chondroid elements. Mitosis are rare and areas of necrosis are infrequently seen, but occasional mild to moderate nuclear atypia is seen and can contribute to the difficulty in correct diagnosis. Treatment is primarily surgical. Tumor recurrence was most common after curettage resection, and re-excision or external beam radiation were subsequently used for control. A small 1-2% rate of malignant transformation of CMF after radiation was reported.

REFERENCES