CASE REPORT

Chondrosarcoma of Para-Nasal Sinuses

Shafkat A. Lone, Mir Sajad, Mohd Lateef

Abstract

An uncommon case of chondrosarcoma involving para-nasal sinuses is presented. Pertinent literature is reviewed to emphasizes the overall management of this unusual tumor.

Key words

Chondrosarcoma, Para-nasal sinuses

Introduction

Chondrosarcoma is an uncommon malignant neoplasm of cartilaginous origin. Less than 10% of all cases of chondrosarcoma occur in the craniofacial region making craniofacial chonrdrosarcoma a rare disease (1). The first paranasal sinus chondrosarcoma to be reported as such was described by Mollison in 1916 (Freedman-pathology). Chondrosarcoma of the craniofacial region may arise from any bone, cartilage, or soft-tissue structures but usually involves the mandible, maxilla, or cervical vertebrae (2). We hereby present a case-report of chondrosarcoma, probably originating in the right ethmoidal region with extension into the nasal cavity and maxillary sinus of the same side. Although unusual in its presentation, the case is illustrative in its clinical, radiological, and histological presentation.

Case Report

A 48 year old, non-smoker, farmer presented to the department of Otorhinolaryngology and Head and Neck Surgery of Government Medical College Srinagar with the symptoms of nasal obstruction, headache and swelling right cheek progressively increasing in size for two months.His medical history was unremarkable.On examination the swelling was hard in consistency, non-tender, 4cm x 3cm, fixed (Fig 1).The skin over the swelling was intact. Anterior rhinoscopy revealed a fleshy mass obstructing right nasal cavity and pushing the septum towards the left. Posterior rhinoscopy did not reveal anything. Sense of smell was normal on left side and absent on right side. There was no cervical lymphadenopathy. C.T. scan of the nose and para-nasal sinuses showed a heterogenous mass in the right maxillary sinus extending into the nasal cavity and ethmoid sinus of the same side. Areas of curvilinear calcification and ossification were noted within the mass (Fig 2). The patient underwent total maxillectomy.The resected specimen showed a large pink lobular mass filling the maxillary sinus, ethmoid sinus and the nasal cavity (Fig 3) The tumor was hard with numerous calcifications. Microscopic examination showed that the tumor was composed of lobules of chondroid matrix that infilterated into the pre-existing bone and causing local bone destruction and cellular features suggestive of high grade chondrosarcoma, (Fig 4).

From the Department of E.N.T., Government Medical College, Srinagar (J&K) India.
Correspondence to : Dr. Safkat A. Lone, Registrar, Goverrnment Medical College, Srinagar (J&K) India.

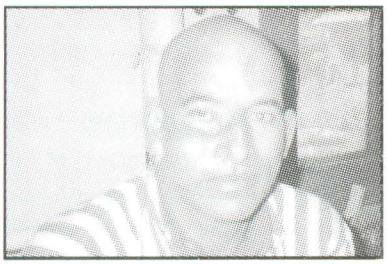

Fig 1. Pre-operative photograph showing swelling of right cheek

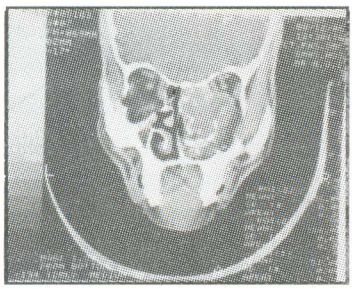

Fig 2. CT scan showing a hyperdense mass with curvilinear calcification in the right maxillary sinus extending into the nasal cavity and ethmoid sinus of the same side.

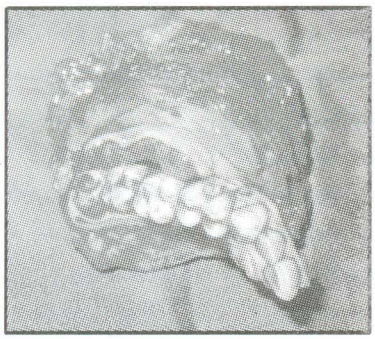

Fig 3. Post-operative specimen.

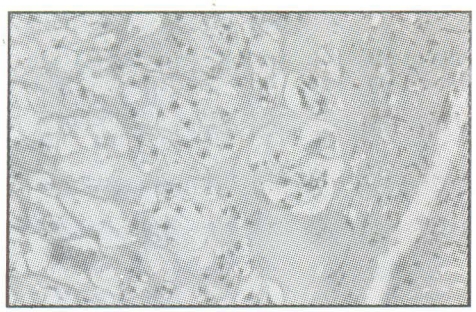

Fig 4. Micro-photograph showing features of chondrosarcoma.

Discussion

Chandrosarcomas are a heterogeneous group of malignant tumors derived from a cartilaginous origin. Although most chondrosarcoma tumors arise from cartilaginous or bony structures, they may also develop in soft tissues (3). Less than 10% of all cases of chondrosarcoma involve the craniofacial region, accounting for less than 2%of all head and neck tumors (1,3). The presenting symptom of the case discussed here was characteristic of craniofacial chondrosarcoma.This type of tumor is most commonly a painless mass that progresses to symptoms such as nasal obstruction, anosmia, impaired vision and dental abnormalities. In rare instances, it may also present with the swelling of cheek, and headaches (2). Because of the rarity of chondrosarcomas, their epidemiologic risk factors remain poorly defined . The male to female ratio is 1.2, 1 (2). Most chondrosarcomas occur in patients younger than 40 years of age.

The radiological appearances of the case presented herein is highly suggestive of chondrosarcoma. On CT scan chondrosarcoma appears as a lobulated mass containing an irregular matrix with bone invasion and destruction. The signal density of the chondroid is lower than that of the bone matrix, although region of bone density may be observed because of localized ossification.

The extent of tumor in this patient is unusual and is attributable to the negligence and the rarity of the tumor. Surgery is the treatment of choice for patients with chondrosarcoma of the head and neck. The prognosis is good for low and intermediate grade chondrosarcomas (4). Tumor involvement at the resection margins is the only other poor prognostic sign (2). The overall 5-year survival for low grade chondrosarcomas after complete resection is between 55%-75% (1-3). The most common cause of death is recurrence with local invasion of skull base (2). The patient has been free of disease for the last 1-year and continues to undergo regular follow up examination.

References

1. Clark C.Chen, Liangge Hsu, Jonathan L.Hecht, and Ivo Janeeka. Bimaxillary chondrosarcoma. *Am J Neuroradiol* 2002; 23: 667-70.
2. Gadwal SR, Famburg-Smith JC, Gannon FH, Thompson LD. Primary chondrosarcoma of the head and neck in pediatric patients. *Cancer* 2000; 88:2180-88.
3. Koch BB, Karnel LH, Hofman HT. Chondrosarcoma of the head and neck. *Head Neck* 2000; 22:408-25.
4. Rauk DS, Schlehaider UK,Shah JP. Chondrosarcomas of the head and neck. *World J Surg* 1992; 16: 1010-16.