WEST AFRICAN JOURNAL OF MEDICINE

CASE REPORT

Nasal Osteogenic Chondrosarcoma: A Case Report

Osteogenic Nasal Chondrosarcoma : un Rapport de Cas

K. A. Adeniji*†, S. Segun-Busari‡, F. E. Ologe‡, O.O. K. Ibrahim†, B.S Alabi‡, A. D. Dunmade‡

ABSTRACT

BACKGROUND: **Osteosarcomas and chondrosarcomas are the most common malignancies of the jaw bones. Nasal osteogenic chondrosarcoma is rarely reported.**

OBJECTIVE: **To draw attention to a rare tumour, osteogenic chondrosarcoma.**

METHODS: **A middle-aged woman presented with a three-month history of nasal blockade and mucopurulent discharge. She was fully clinically evaluated including anterior rhinoscopy and plain radiograph.**

RESULTS: **Detailed history, physical examination and plain radiography showed features suggestive of antrochoanal polyp with differential diagnoses of sino-nasal and nasopharyngeal tumour. At emergency tracheostomy, examination under anaesthesia, meticulous nasal and nasopharyngeal tumour clearance was done. Histopathological examination of the mass revealed osteogenic chondrosarcoma.**

CONCLUSION: **Though rare, osteogenic chondrosarcoma affects nasal bones. Clinically the tumour mimicks an antro-choanal polyp and is associated with the challenge of recurrence. WAJM 2010; 29(1): 41–43.**

Keywords: **ENT; Osteogenic chondrosarcoma; antro-choanal polyp; Nigeria; Case report; Epistaxis.**

RÉSUMÉ

CONTEXTE : *Osteosarcomas et chondrosarcomas sont les malveillances les plus communes des os de mâchoire. Osteogenic nasal chondrosarcoma est rarement annoncé.*

OBJECTIF : *attirer l'attention à une tumeur rare, osteogenic chondrosarcoma.*

MÉTHODES : *une femme d'âge mûr présentée avec une histoire de trois mois de blocus nasal et de renvoi de mucopurulent. Elle a été complètement cliniquement évaluée en incluant rhinoscopy antérieur et la radiographie simple.*

RÉSULTATS : *l'histoire détaillée, l'examen physique et la radiographie simple ont montré des caractéristiques suggestives de polype antrochoanal avec les diagnoses différentielles de tumeur nasale-sino-et nasopharyngeal. Au cas d'urgence tracheostomy, l'examen sous l'anesthésie, le déblayage de tumeur nasal et nasopharyngeal méticuleux a été fait. L'examen de Histopathological de la masse a révélé osteogenic chondrosarcoma.*

CONCLUSION : *Bien que rare, osteogenic chondrosarcoma affecte des os nasaux. Cliniquement la tumeur mimicks un polype antro-choanal et est associée au défi de réapparition.* ***WAJM 2010; 29 (1) : 41–43.***

Mots clé : *ENT; Osteogenic chondrosarcoma; polype d'antro-choanal; le Nigeria; rapport de Cas; Epistaxis.*

Department of †Pathology and ‡Otorhinolaryngolgy, University of Ilorin of Ilorin Teaching Hospital Ilorin, Kwara State. Nigeria
Correspondence: Dr. K. A. Adeniji, Department of Pathology, University of Ilorin Teaching Hospital, Ilorin, Kwara State, Nigeria. P. O. Box 4628 Tel. 08065262375, E-mail : banjiadeniji2k7 yahoo.com
Abbreviations: ENT, Ear, Nose and Throat.

INTRODUCTION

Cancer of the nose and sinuses accounts for less than 1% of all malignancies and about 3% of all head and neck cancers[1]. It has a geographic tendency to affect the African, the Japanese, and the Arab; being much rarer in Western Europe and America.[1]

The definitive diagnosis of head and neck cancers is generally made by histological evaluation; and their management and prognosis largely depend on accurate and timely diagnosis.[2] One of the reasons the management of cancers of the head and neck remains a major challenge to medical practitioners is because of the varied nature of histological patterns.[2]

The aim of this communication is to draw attention to a rare histological diagnosis of osteogenic chondrosarcoma of the nose.

Case report

A 46-year-old female civil servant presented at the ENT clinic with a three-month history of bilateral nasal blockage (worse on the left), mucopurulent nasal discharge with occasional epistaxis which occurred about two to three times in a week, with estimated blood loss of about 5–10mls per hour. At about the same time she noticed a palatal swelling associated with difficulty in breathing. Palatal swelling was associated with dysphagia to solids, snoring, stridor, hoarseness of voice and nocturnal apnoeic attacks. There was no history suggestive of mycobacterial infection or of otologic and olfactory symptoms. She was not a known hypertensive, diabetic or asthmatic patient.

On examination, she was dyspnoeic and tachypnoeic (Respiratory rate of 24 cycles per minute), with stridor worse on inspiration.

Anterior Rhinoscopy revealed a firm multi-lobulated, non tender mass filling the left nasal cavity and it bled to touch. There was obliteration of the naso-maxillary fold on the left side but no epiphora. The inferior turbinates were prominent bilaterally. There was mucopurulent secretion in both nasal cavities, and no patency of the airway. Post nasal space examination was difficult because of the depressing palatal mass.

Oropharyngeal examination revealed fair oro-dental hygiene with an obvious hard non tender palatal swelling that crossed the midline and measured 4cm x 6cm with a smooth hyperemic surface. A soft palatal depression was almost touching the tongue (Mallampati IV), but the tonsils appeared normal. The posterior pharyngeal wall could not be assessed because of the mass which extended to the base of the tongue. The chest was clinically clear, and there were no significant palpable lymph nodes in the head and neck region.

A plain radiograph of the postnasal space showed complete obliteration of the post-nasal air column with a radio opaque mass extending down towards the oropharynx. Other sinus radiographs and those of the chest were normal.

A provisional diagnosis of antrochoanal polyp was made with differential diagnoses of sino-nasal tumour and nasopharyngeal tumour.

Because of the upper airway obstruction patient had an emergency tracheostomy and examination under anesthesia, in which nasal toileting and bilateral antrostomy were done. Intra-operative findings included a fleshy pale multi-lobulated mass filling the nasopharynx and extending to the base of the tongue. There was hard palatal swelling, extending across the midline. There was craggy bony mass in both nasal cavities. Laryngeal air column was normal. The nasopharyngeal mass was excised. While awaiting histopathology report, it was observed that the patent nasal cavities were blocked again. Examination revealed that the blockage was due to residual tumuor mass. She was worked up for examination under anesthesia. The residual mass was again excised and surgical decannulation was done. The patient had a gloved finger nasal pack in place, which was removed on the second day post-operation. Patient's clinical condition was satisfactory. Histopathology report showed osteogenic chondrosarcoma (Figures 1 and 2).

Post operatively, she was placed on intravenous dicynone, antibiotics, decongestants and analgesics. When she became clinically stable, she was referred for chemo-radiation therapy. She had the complete course of chemo radiotherapy, but developed severe anemia and post radiotherapy hypotension. She subsequently went into unconsciousness and died. Relations did not consent to post mortem examination.

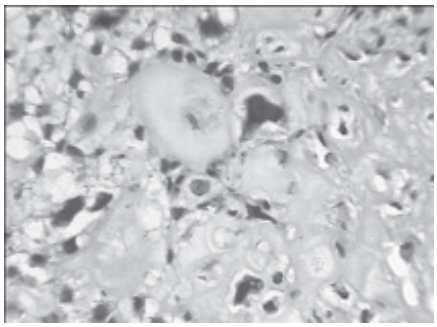

Fig. 1: Section shows anaplastic chondrocytes with a myxoid background. The right side shows osteoid deposit.

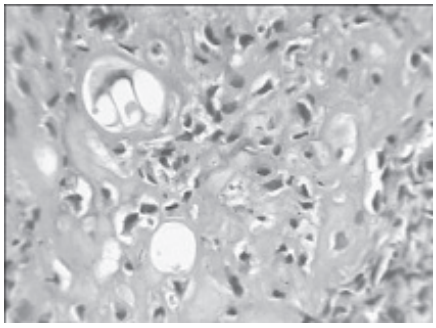

Fig. 2: Section shows anaplastic chondrocytes similar to those in Fig. 1 with abundant osteoid deposit.

DISCUSSION

Bone tumors are relatively rare, as compared with all other tumours. The relative frequency has not been well documented in West Africa.[3] Osteogenic sarcoma is the most common primary malignant bone tumour and the mandible is the most commonly affected bone. In contrast to previous studies, Burkitt's lymphoma affects the mandible more commonly than the maxilla. The bone tumours were relatively more prevalent in males.[4]

Chondrogenic tumours are the second largest group of bone tumors.[5] Their histological pattern suggests a relationship to hyaline cartilage. Exostoses, or osteochondromas, represent about one/three of

chondrogenic lesions. Chondosarcomas are tumors whose malignant cells produce a cartilaginous matrix.

In bone tumours, analysis showed that people with blood type A were prone to develop synovioma and metastatic bone tumor but not osteogenic sarcoma based on observation of ABH blood type-substances.[6] This is used to make predictions by changes in trace elements in bone tumours. In this report patient's blood group is O positive. Further research on genetics and immunology in relation to bone tumours is encouraged. Osteogenic chondrosarcoma though rare has been reported in the skull base, temporal bone, sphenoid bone, mandible, premaxilla, ribs, hip bone and even in the skin of the vagina and oral cavity but not in the nose.[7-9] The most common presenting symptoms are hoarseness, dysphagia, and diplopia, which are associated with palsies of cranial nerves X, IX, and VI.[7-9]

In this report, patient had hoarseness, dysphagia but no diplopia probably due to local effects and not skull base metastasis. Atanasov D T *et al* found the age range of patients with sarcomas of the mandible to be between 28 to 65 years,[10] and this is in keeping with the age in this patient (i.e. 46 years).

The resurgence of the clinical symptoms two weeks after the first excision must have been due to the aggressiveness of the tumour. This again will be something to look out for so as to determine the prognosis and disease pattern of osteogenic chondrosarcoma. More effective therapy has to be developed in order to improve their outcome.[11]

Conclusion

Osteogenic chondrosarcoma has been reported in the mandible, premaxilla, ribs, and hip bone and even in the skin of the vagina and oral cavity but not in the nose.

Clinical features are similar and diagnosis is mainly from patient history, radiological imaging and excision. Treatment is by surgery, followed by chemo-radiation therapy. Tumor, though prevalent in males, this case occurred in a female.

The challenge of recurrence and the clinical pattern mimicking an antro-choanal polyp are worthy of note.

REFERENCES

1. Maran AGD. Cancer of the nose and sinuses. In Logan Turner's Diseases of the Nose, Throat and Ear. 10th Edition, Editor Maran, AGD Butterwoths/ Heinemann: Oxford 1994: 209–211.
2. Ologe FE, Adeniji KA, Segun-Busari S. Clinicopathological Study of Head and Neck Cancers in Ilorin, Nigeria. *Tropical Doctor,* 2005; **35:** 2–4.
3. Omololu AB, Ogunbiyi JO, Ogunlade SO, Alonge TO, Adebisi A, Akang EE.. Primary malignant bone tumour in a tropical African University Teaching Hospital. *West Afr J Med.* 2002; **21:** 291–293.
4. Shah SH, Muzaffar S, Soomro IN, Pervez S, Hasan SH. Clinico-morphological pattern and frequency of bone cancer. *J Pak Med Assoc.* 1999; **49:** 110–112.
5. Bertoni F, Bacchini P. Classification of bone tumors. *Eur J Radiol.* 1998; **27:** S74–76.
6. Jiao DX. [Bone tumor and ABO blood type] [Article in Chinese] Seamen's Hospital, Shanghai.Zhonghua Zhong Liu Za Zhi. 1991; **13:** 220–222.
7. Seidman MD, Nichols RD, Raju UB, Mehta B, Levy HG. Extra cranial skull base chondrosarcoma. *Ear Nose Throat J.* 1989; **68:** 626–635.
8. Banerjee SS, Coyne JD, Menasce LP, Lobo CJ, Hirsch PJ. Diagnostic lessons of mucosal melanoma with osteocartilaginous differentiation. *Histopathology.*1998; **33:** 255–260.
9. Gullane PJ, Conley J. Carcinoma of the maxillary sinus. A correlation of the clinical course with orbital involvement, pterygoid erosion or pterygopalatine invasion and cervical metastases. *J Otolaryngol.* 1983; **12:** 141–145.
10. Atanasov DT, Indjov SI, Lalabonova HK, Neichev DS. Sarcomas of the mandible. Literature review and case reports. *Folia Med (Plovdiv).* 2004; **46:** 31–35.
11. Postovsky S, Ash S, Ramu IN, Yaniv Y, Zaizov R, Futerman B *et al.* Central nervous system involvement in children with sarcoma. *Oncology.* 2003; **65:**118–124.