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ODONTOGENIC MYXOMA- A RARE CASE AND DIAGNOSTIC AND THERAPEUTIC CHALLENGES

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ABSTRACT

Introduction: The odontogenic myxoma is generally considered to be a rare neoplasm unique to the jaws. In the international histological classification of odontogenic tumors, odontogenic myxoma (OM) is defined as a benign odontogenic tumor of mesenchymal origin that is locally invasive and consists of rounded and angular cells lying in abundant mucoid stroma. Since these neoplasms are rare in the oral cavity, the possible surgical management can be quite variable. Literature recommendation can vary from simple curettage and peripheral ostectomy to segmental resection.

Purpose: To present a case of OM of the lower jaw in Department of Oral and maxillofacial surgery, Faculty of Dental Medicine, Sofia.

Material and methods: The medical history of 18 year-old male presented a neoplasm in the right mandible molar area. Biopsy specimen taken from the lesion showed OM and a peripheral ostectomy as a surgical procedure was performed. Results: At the 1-year clinical and radiological follow up there was no sign of recurrence.

Conclusions: Variations in radiographic presentation make a radiological differential interpretation of OM a challenge because the radiographic features overlap with those of other benign and malignant neoplasms. The current recommended therapy depends on the size of the lesion and on its nature and behaviour and can vary from curettage to radical excision.

Key words: odontogenic myxoma, mandible

INTRODUCTION:

Odontogenic myxomas (OMs) are benign but locally invasive tumours originating from primordial mesenchymal tooth forming tissues which do not metastasise. They are rare tumours and account for 3.3e15.7% of all odontogenic tumours in adults [1-4, 6] and for 8.5e11.6% in children [12]. They occur in all age groups with a peak incidence in the third decade. Odontogenic myxomas can be found in both the maxilla and the mandible, usually associated with a tooth germ.[7, 8, 14] It is an asymptomatic lesion that shows an infiltrative growth pattern. Such lesion causes a destruction of the medullar bone and expansion of the cortical bone. Frequently, the lesion is perforating and invading the adjacent soft tissues and cortical bone. The posterior region of the jaw is the most frequent area where the neoplasm occurs, having a similar distribution in males and females.[7]

Microscopically these lesions are characterized by stellate and spindle-shaped cells embedded in a richly myxoid extracellular matrix, with scarce collagen; those cases with higher amounts of collagen may be denominated as myxofibroma.

On imaging, odontogenic myxoma may present variable features - mostly as radiolucent, multilocular or unilocular structures on plain radiographs. Both CT and MRI correlate sometimes with the histological features and are considered useful tools for diagnosis (internal structure of the lesion and the condition of bone margins). (3,9)

Diagnosis is most commonly established by biopsy. Histopathological features include a whitish-grey glistening or gelatinous mass with minimal essential encapsulation microscopically and spindled or stellate-shaped cells in a mucoid-rich intracellular matrix [10, 11]. Immuno-cytochemical staining is positive for vimentin, but in contrast to myosarcomas is negative for desmin, neuron specific enolase, glial fibrillary acid protein and S100 [10, 11].

Management varies depending on the location and size of the tumour, the age of the patient and individual experience. They range from minimally invasive excisional biopsies to an en bloc resection of multiple of relevant structures. Long-term follow-up is crucial as myxomas have a significant tendency of reccurence. Recurrence rates for myxomas in the literature vary from 5 to 10% but there is no reliable data in the existing literature.[7, 9]

CASE REPORT

We present a 18 years old male, who referred to our department with orthodontic anomaly.(Fig. 1) Plain radiography showed unilocular , well- defined radioluscent lesion around the crowns of 47 and 48 teeth which were in abnormal position (dystopia). (Fig. 1) There was no expanded mass and deformity of the alveolar ridge. Biopsy was performed during the surgical procedure for teeth extraction under local anesthesia and a curettage and peripheral ostectomia was added to the procedure. In one step procedure was performed peripheral bone resection. The surgical treatment enabled us to diagnose the lesion as an odontogenic myxoma. The histologic specimen was

stained using hematoxiline- eosine. The staining showed a neoplasia of odontogenic origin with features that suggested the presence of an odontogenic myxoma. The case has been followed up for 2 years and the recurrence was not evident.(Fig. 2, Fig. 3)

DISCUSSION

OM is regarded as a locally invasive tumour that does not metastasize and exhibits slow and asymptomatic expansion, sometimes resulting in perforation of the cortical borders of the affected bone [1]. In many cases (the same as our case) these lesions are diagnosed accidentally by a routine dental checkup and X-ray. The patients are usually in their second or third decade of life – our patient is 18 years old male, in almost 60% of the cases (10) . Radiographically, the tumour is seen as a unilocular or multilocular radiolucent lesion with well-defined borders and fine bony trabeculae. The usual radiographic description of OMs is a ''honeycomb'', ''soap bubble'' or ''tennis racket'' lesion [10]. Displacement of teeth is a relatively common finding, although root resorption is rarely seen and this was the reason we perform the x-ray in our patient.

CONCLUSION

Odontogenic myxomas (OMs) are considered to be a benign odontogenic tumour with locally aggressive behaviour. Since these neoplasms are rare in the oral cavity, the possible surgical management can be quite variable. The current letrature recommended therapy depends on the size of the lesion and on its nature and behaviour and can vary from simple curettage and peripheral ostectomy up to segmental resection.

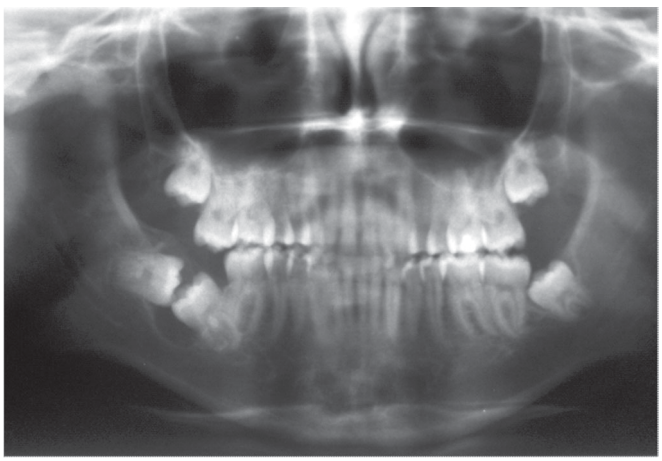

Fig. 1. Odontogenic myxoma

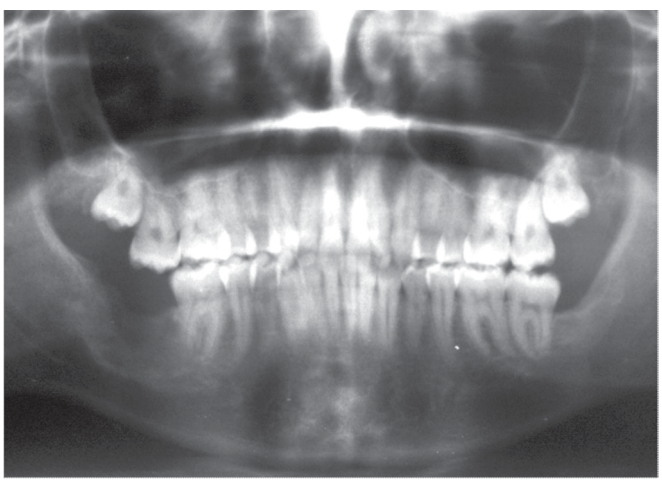

Fig. 2. Postoperative defect one year after surgery

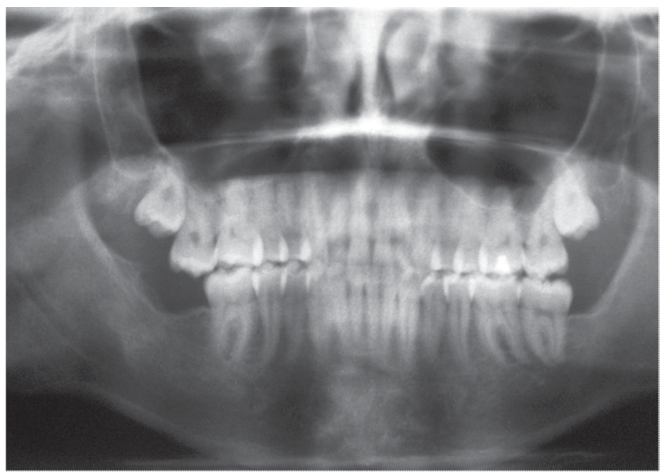

Fig. 3. The condition two years after surgery

REFERENCES:

1. Aquilino RN, Tuji FM, Eid NLM, Molina OF, Joo HY, Neto FH. Odontogenic myxoma in the maxilla: A case report and characteristics on CT and MR. *Oral Oncology Extra.* 2006 Apr;42(4):133-136. [CrossRef]

2. Araki M, Kameoka S, Mastumoto N, Komiyama K. Usefulness of cone beam computed tomography for odontogenic myxoma. *Dentomaxillofac Radiol*. 2007 Oct;36(7):423-427. [PubMed]

3. Asaumi J, Konouchi H, Hisatomi M, Kishi K. Odontogenic myxoma of maxillary sinus: CT and MR-pathologic correlation. *Eur J Radiol.* 2001 Jan; 37(1): 1-4. [PubMed]

4. Buchner A, Merrell PW, Carpenter WM. Relative frequency of central odontogenic tumors: a study of 1,088 cases fromNorthern California and comparison to studies from other parts of the world. *J Oral Maxillofac Surg*. 2006 Sep;64(9): 1343-1352. [PubMed] [CrossRef]

5. El-Ghehani R, Orafi M, Elarbi M, Subhashraj K. Benign tumours of orofacial region at Benghazi, Libya: a study of 405 cases. *J Craniomaxillofac Surg*. 2009 Oct;37(7):370-375. [PubMed] [CrossRef]

6. Jing W, Xuan M, Lin Y, Wu L, Liu L, Zheng X, et al. Odontogenic tumours: a retrospective study of 1642 cases in a Chinese population. *Int J Oral Maxillofac Surg*. 2007; 36(1): 20-25. [PubMed] [CrossRef]

7. Kansy K, Juergens Ph, Krol Z, Paulussen M, Baumhoer D, Bruder E, et al. Odontogenic myxoma: Diagnostic and therapeutic challenges in paediatric and adult patients - A case series and review of the literature, *J Craniomaxillofac Surg*. 2012 Apr; 40(3):271-276. [PubMed] [CrossRef]

8. Katz JO, Underhill TE. Multilocular radiolucencies. *Dent Clin North Am*. 1994 Jan;38(1):63–81. [PubMed]

9. Kawai T, Murakami S, Nishiyama H, Kishino M, Sakuda M, Fuchihata H. Diagnostic imaging for a case of maxillary myxoma with a review of the magnetic resonance images of myxoid lesions. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 1997 Oct; 84(4):449-454. [PubMed]

10. Li TJ, Sun LS, Luo HY. Odontogenic myxoma: a clinico-pathologic study of 25 cases. *Arch Pathol Lab Med.* 2006 Dec;130(12): 1799-1806. [PubMed]

11. Martinez-Mata G, Mosqueda-Taylor A, Carlos-Bregni R, de Almeida OP, Contreras- Vidaurre E, Vargas PA, et al. Odontogenic myxoma: clinico-pathological,vimmunohistochemical and ultrastructural findings of a multicentric series. *Oral Oncol.* 2008 Jun;44(6): 601-607. [PubMed] [CrossRef]

12. Mortellaro C, Berrone M, Turatti G, Rimondini L, Brach Del Prever A, Canavese F, et al. Odontogenic tumors in childhood: a retrospective study of 86 treated cases. Importance of a correct histopathologic diagnosis. *J Craniofac Surg*. 2008 Jul;19(4): 1173-1176. [PubMed] [CrossRef]

13. Peltola J, Magnusson B, Happonen RP, Borrman H. Odontogenic myxoma - a radiographic study of 21 tumors. *Br J Oral Maxillofac Surg*. 1994 Oct;32(5):298–302. [PubMed]

14. Ugrinov R. Tumours in oral and maxillofacial and neck region. *Sofia.* 2009; pp.384. [in Bulgarian]

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