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Case Report

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Odontogenic Myxoma of the Mandible

Ebtissam M Sahli*[1], Mohammed Bayazeed[2], Ahmad Othman[3], Shahed Riyaz[4], Kholoud N Moussa[4] and Abdulla Al Gorashi[4]

[1]*General Dental Practitioner, Jazan City*

[2]*Ms.c Oral and Maxillofacial Surgery, king Fahad General Hospital, Jeddah*

[3]*Teaching Assisstant at Taibah University, Medina*

[4]*Oral & Maxillofacial Surgery Consultant, king Fahad General Hospital, Jeddah*

***Corresponding author**

Ebtissam M Sahli, General Dental Practitioner, Jazan

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Abstract

Odontogenic myxoma is a rare neoplasm wich can occure in soft tissue or bone, which has the high risk for massive destruction of the jaws and derividing from mesenchymal tooth forming tissues, OM has a predilection in the mandiblular posterior region. In this report we present the case of a typical odontogenic myxoma in a 20-year-old male patient, who acquired large swelling and involved the whole the left half of the mandible including the ramus and molar region resulting in grossly facial assymetry within a peroid of 3 years. After the diagnosis was confirmed the patient was treated with left hemimandibulectomy and reconstruction was done.

Keywords: Aggressive, Mesenchymal, Myxoid, Myxoma, Odontogenic, Mandible

Introduction

The Odontogenic Myxoma [OM] was first described by Thomas and Goldman in 1947, OM are benign but locally aggressive and low progressing neoplasm of jaws [1]. OM most frequently occurs in second or third decades of life, has a slight female predilection, and involves the mandible more commonly than the maxilla and the mandibular sites most often affected are molar and ramus region, whereas in case of maxilla, the most affected sites are premolar and first molar [2]. Clinically, it is a slow growing, expansile, painless tumor, which may cause root resorption, tooth mobility, bone expansion, cortical destruction and facial distortion [3]. Radiologically, the appearance may vary from a unilocular radiolucency to a multicystic lesion with well-defined or diffused margins with fine, bony trabeculae within its interior structure expressing a "soap bubble," or "tennis racket" appearance [4]. According to (WHO), OM is classified as a benign tumor of ectomesenchymal origin with or without odontogenic epithelium, It appears to originate from the dental papilla, follicle or periodontal ligament. Histopathologically, the lesion consists of loosely arranged spindle, stellate-shaped or round cells, in an abundant myxoid stroma [5].

Materials and Methods

We reviewed medical report, CT scan, 3D reconstrcted images and orthopantomograph (OPG) of one patient who underwent surgical treatment for odontogenic myxoma in the mandible.

Case Report

The patient is a 20 years old male, medically free with unknown allergies who presented to Oral Maxillofacial Surgery Clinic in King Fahad Hospital Jeddah (KFHJ) in Saudi Arabia Kingdom with history of a hard and painless swelling of lower left side of the jaw started 3 years ago and it increase gradually in size with obliteration of buccal vestibule from area of lower left canine to lower left wisdom tooth with normal color of mucosa.Benign neoplasm of odontogenic origin (ameloblastoma) of the left mandible was given as provisional diagnosis and odontogenic myxoma was the differential diagnosis for this case. For further investigations, orthopantomograph (OPG) was showing features of diffused multilocular radiolucency with (honey comb) and (tennis racket) appearance involving the left mandible from midline to involve all the left ramus with third molar region (Figure 1).

CBCT was the effective method to demonstrat the inner structure of OMs as fine and straight septa that were recognized to separate the tumour into square, triangular or rectangular spaces, septa is scattered to the border of lesion and it involve the alveolar process, scallop between the roots and affect the integrity of the alveolar ridge (Figure 2 & 3)

Figure 1: Panoramic X-ray: showing a poorly defined multi-locular radiolucency, extending from the midline to the left ramus region until third molar region causing cortical expansion and displacement of anterior teeth.

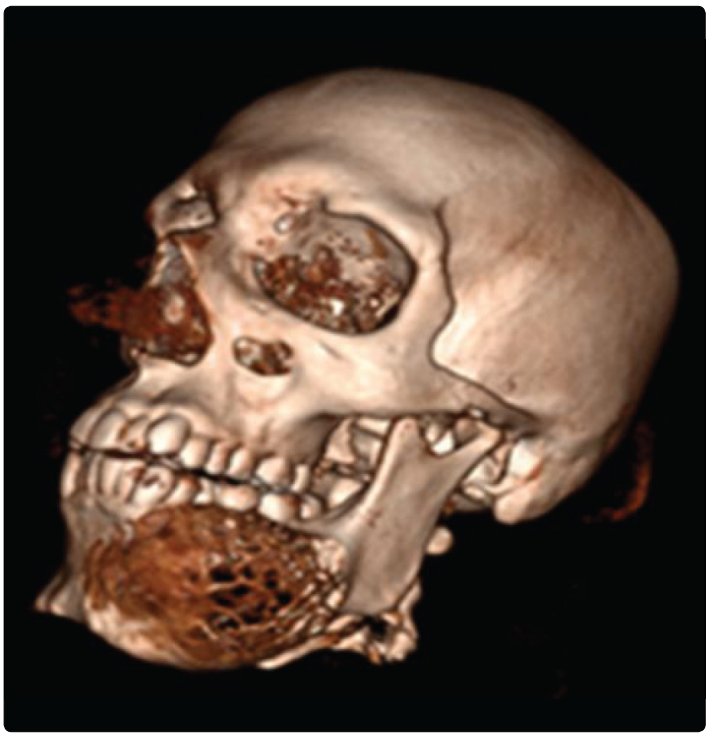

Figure 2: 3D reconstructed CT image shows the multiloculated lesion with bubbly feature in the left side of mandible.

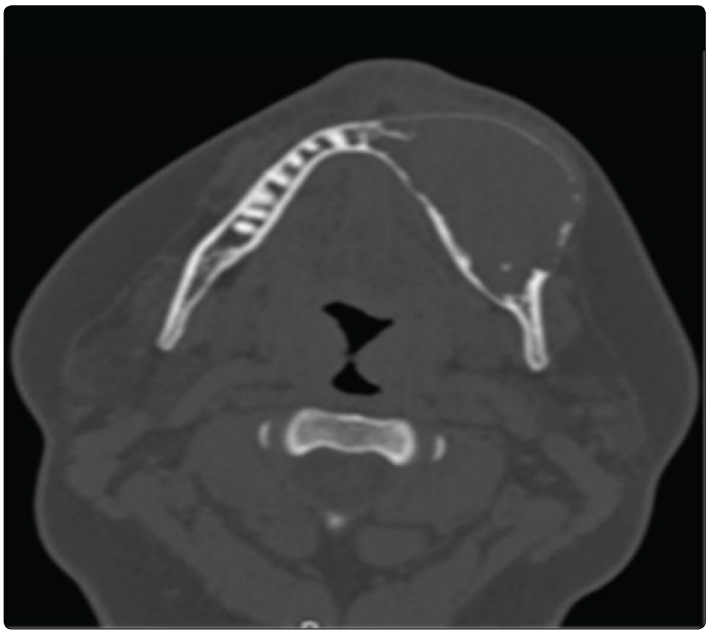

Figure 3: Axial-CT (bone window setting) showing the tumor in the left side of mandible, marked thinning and bone expansion.

Treatment

Patient underwent for hemi_mandibulectomy and reconstruction with reconstructed plate under general anesthesia (Figure4 and 5), and for establishment of mandibular continuity osseous alveolar base and mandibular function, the patient will be planned for delayed bone graft and implant rehabilitation after exclude the tumor recurrence.

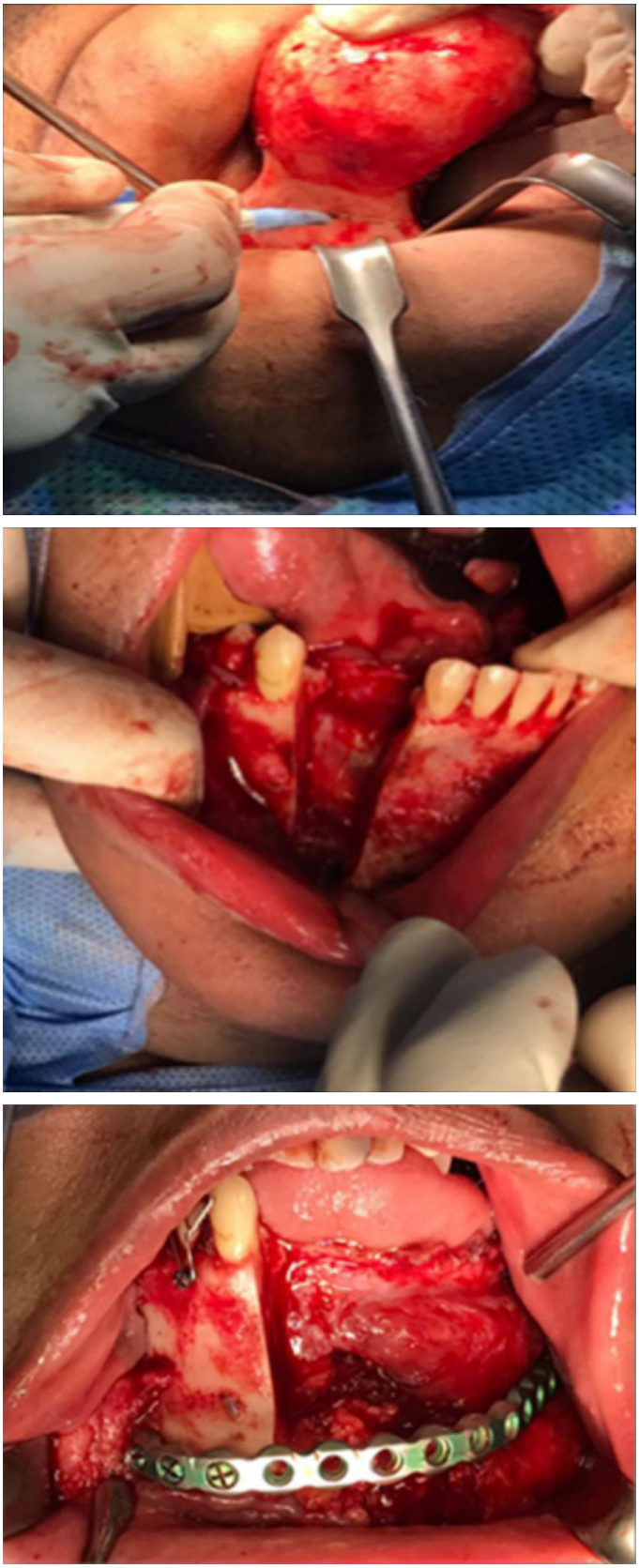

Figure 4: Clinical Photographs of Hemi mandibular resection from area of lower right canine to involve whole the lower left molars region.

Figure 5: Postoperative panoramic radiograph showing reconstruction of the resected site with titanium plate.

Discussion

OM is one of jaw tumors which usually causes adjacent teeth displacementand root resorption has been infrequently reported. The OM is not sensitive for the radiotherapy, and hence surgery is the only treatment of choice, and can be successfully treated by complex surgical intervention and reestablishment of jaw continuity by reconstructed plate and further bone graft or other restorative rehabilitation. The lack of capsule and infiltrative growth pattern is responsible for high rate of recurrence when conservative treatments like enculation, curettage are performed. OM is known to has a high recurrence rate of up to 25% after curettage so a minimum of five years of surveillance is required to confirm that the lesion has healed completely, and periodical clinical and radiographic follow up should be maintained indefinitely irrespective of treatment modality applied to treat OM .The postoperative diffect may cause major difficulties with speech, swallowing and mastication. So these functional problems may affect the quality of life. Change in appearance resulting from the loss of tissue and underlying structures may also lead to emotional stress and depression [6-9]. So multidisciplinary planning is required for rehabilitation of this cases. Fsd. present autogenous graft (vascularized or non-vascularized) remains the most popular means of reconstructing continuity mandibular defect having the best chance of take as they provide viable and immune compatible osteogenic cells on the other hand a lot of studies have claimed the enhancement of PRP (platelet rich plasma) on the bone healing [10-13]. Upon activation of platelets, they release their growth factors and cytokines thus regulate the inflammatory phase of bone healing and subsequently modulate soft and hard callus formation and bone remodelling [14, 15]. Because of the significant regulatory role of growth factors on cell migration, proliferation, differentiation, and maturation as well as matrix production and remodeling, they can effectively influence bone healing [16].

Conclusion

OMs are very rare benign tumors of mesenchymal origin.These tumors are locally invasive and uncommon entity occurring mainly in the facial bone including the jaws. OM is usually a slow-growing mass with late-appearing symptoms primarily due to the mass effect. Symptoms include pain, paresthesia, ulceration, and tooth mobility.

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