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The Radical Approach for the management of Odontogenic Myxoma

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Abstract

Odontogenic myxoma is a benign odontogenic tumor with locally aggressive behavior, and is relatively rare in the oral cavity. There are currently no clear surgical management guidelines for odontogenic myxoma, and a variety of approaches have been used. This case report presents the management of odontogenic myxoma by the surgical resection of the involved mandibular bone with the safe margins all around and thereby reconstructing the defect using the reconstruction plate. The patient was followed up for a year with no evidence of recurrence. The resection can be considered the gold standard in cases of Odontogenic Myxoma involving the jaw bone.

Keywords: Myxomatous, Resection, Odontogenic.

Introduction

Due to the tumor taxonomy, presence of pleomorphism in its appearance, its controversial etiopathogenesis and rarity, it is difficult to assess the true incidence of odontogenic tumor [1]. Of all the different varieties of odontogenic tumor, the true incidence of odontogenic myxoma is about 3%-6% and it contributes to 0.5% of all bony tumors [2.] Though some authors reject the idea of myxoma to have the odontogenic origin but its close association with the dental papilla, its follicle and the periodontal ligament supports its odontogenic root [3]. In 1863 the German pathologist named Rudolph Virchow was the first person to describe about the histological features of Myxofibroma followed by Thoma and Goldman who were the first person to talk about the Myxoma of the jaws in the year 1947 [4]. The Myxomas occur both in the soft and hard tissues. Whereas the soft tissue Myxomas are most commonly found, the hard tissue tumors are mostly seen involving the jaws [5]. The most common site of occurrence of Odontogenic Myxoma is the posterior mandibular region with the female predilection and mostly seen in second to fourth decade of life. Clinically the tumor present as an asymptomatic painless swelling and seldom shows the sign of paresthesia. Radiographically the tumor is seen as a unilocular, multilocular or a mixed lesion. Displacement of teeth can be appreciated too, radiographically. The Odontogenic Myxoma is associated with the high rate of recurrence ranging from 10%-43% owing to its myxomatous nature, absence of capsule and its invasion into the surrounding tissues. The treatment of Odontogenic Myxoma varies from conservative treatment of simple enucleation to more radical one such as resection with varied results. Here we present a case report of a female patient wherein the more radical approach was taken into consideration with good prognosis.

Case Report

The 30-year-old patient came to the Department of Oral and Maxillofacial Surgery, with the chief complain of swelling in the lower left back teeth region since one year. Patient gave history of extraction of all the posterior teeth over the left side by a local Dentist two months' back and then was referred to us when the swelling did not subside. Extra-orally 4cm*3cm diffuse swelling was seen extending from the corner of the mouth till the angle of the mandible medio-laterally and from the corner of the mouth till the lower border of the mandible supero-inferiorly. The swelling was firm to hard in consistency, non-fluctuant and non-tender. Presence of paresthesia over the lower lip on the left side. Intra-orally the swelling was seen extending from 34 till the retromolar area medio-laterally. The mucosa over the swelling was normal. No evidence of pus discharge seen. Bucco-lingual cortical

expansion seen. Radiographically multilocular radiolucency with the destruction of cortical plates seen which gives a characteristic soap-bubble appearance (Figure 1). Based on the clinical examination the Provisional diagnosis of amelobalstoma was made.

Under local anesthesia incisional biopsy was performed and the specimen was sent for histopathological examination. The microscopic study revealed a predominant loose myxomatous stroma containing collagen fibrils which was focally lined by flattened lining epithelium along with haphazardly arranged few spindle-shaped and bland stellate cells with sparsely scattered residual bony trabeculae (Figure 2).

Taking the biopsy report and the clinical aggressiveness of the pathology into consideration, segmental resection was performed under general anesthesia. The resected mandible (Figure 3) was then reconstructed using reconstruction (Figure 4) plate and furthermore the specimen was sent for histopathological examination.

The patient was followed up for the period of one year with no evidence of recurrence (Figure 5).

Discussion

Odontogenic Myxoma is the slow growing, non-encapsulated benign odontogenic tumor that occurs rarely in the jaw. Odontogenic Myxoma occurs most commonly in the second to fourth decade of life with majority of cases occurring within the female population and the mandible is involved more than the maxilla. Elison N. M. Simon et al studied 33 patients with Odontogenic Myxoma and found the Male:Female ratio to be 1:1.83. They also noticed that the majority of the cases were in their second to fourth decade of life with the peak in the third decade and most cases were confined to the mandible [6]. We have reported 30 years old female patient in whom the pathology was confined to the mandibular arch.

The radiographic feature of the Odontogenic Myxoma presents as a unilocular or multilocular lesion with sometimes presenting with the characteristic “sunburst” appearance when the destruction of the cortical plate occurs. J. Peltola et al analyzed the radiological features of 21 cases of Odontogenic Myxoma and concluded that whereas the unilocular cases are confined to the anterior portion of the mandible, the multilocular cases are mostly present in the posterior mandibular region [7]. Our patient presented with the multilocular radiolucency confined to the posterior portion of the mandible.

There is a wide range of treatment protocol pertaining to the surgical treatment of Odontogenic Myxoma ranging from conservative treatment such as simple enucleation or curettage to more radical approach such as resection with or without reconstruction. Paola Boffano et al treated 10 patients of Odontogenic Myxoma in which 3 patients were treated with enucleation and curettage while the other 7

patients with the more aggressive approach of resection followed by immediate reconstruction, with no evidence of recurrence seen in any one of them. They concluded that the bigger tumors need resection with reconstruction [8]. In our case study we did the segmental resection of the lesion followed by reconstruction using the reconstruction plate with no evidence of recurrence even after one year of follow up.

Conclusion

The odontogenic Myxoma though benign but is an aggressive tumor which rarely affects the jaw bone. Though numerous treatment protocol has been advocated, the resection followed by reconstruction remains the gold standard for the management of the disease. The correct understanding, knowledge and the good surgical skill is required for the appropriate diagnosis and the treatment planning of the disease.

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Legend Figure

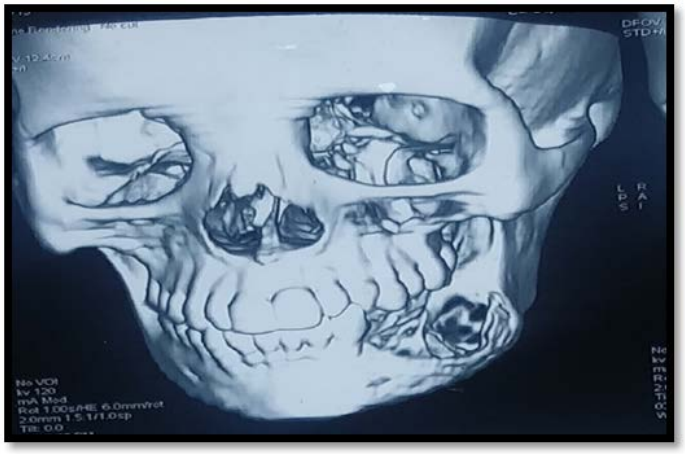

Figure 1

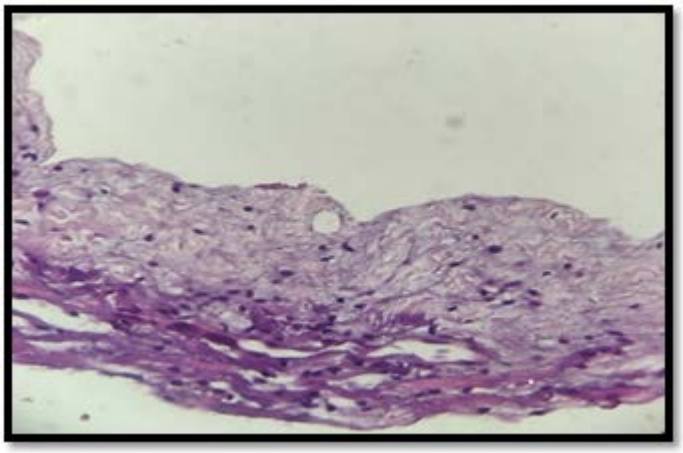

Figure 2

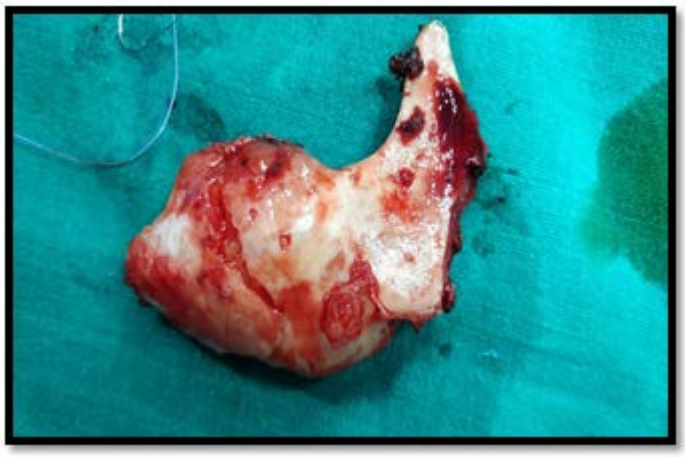

Figure 3

Figure 4

Figure 5