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Conservative Surgical Approach to Odontogenic Myxoma Involving Anterior Maxilla: A Case Report

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***Abstract:** A rare, benign odontogenic tumour - Odontogenic myxoma has a locally aggressive behavior, and is relatively rare in the maxilla. A variety of surgical approaches for this type of tumour have been tried but no clear-cut management protocol has been defined. This case addresses the surgical management of odontogenic myxoma and its behavior in the clinical setting.*

I. INTRODUCTION

Odontogenic myxomas belong to the category of Odontogenic tumors of mesenchymal origin without the involvement of Odontogenic epithelium[1]. Odontogenic myxoma is generally regarded as a rare benign tumor that occurs in tooth-bearing areas of the mandible and maxilla and is mostly seen in 2^{nd}-5^{th} decade. The characteristic of the tumor is by its slow growth and bony invasions, resulting in painless facial deformity.

Here, we present a case of 55 year old female suffering from an Odontogenic myxoma of the upper right anterior region that was treated with conservative surgical excision followed by curettage of the surgical cavity

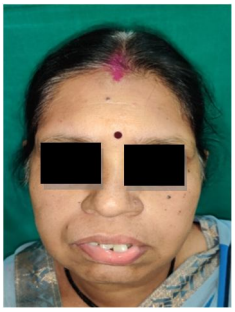
II. CASE REPORT

A 55 year old female reported to the Department of Oral and Maxillofacial surgery, GDC Indore with a chief complaint of swelling with respect to the anterior region of the upper jaw since 3 months associated with mild facial asymmetry which increased in size over the past three months with no history of pain, fever or lymphadenopathy. On general examination, the vitals were found to be stable with no underlying medical conditions like Diabetes, Hypertension, Bleeding, or coagulation disorders and no history of respiratory disease. The patient did not give any history of trauma to the associated region.

On extraoral examination(figure 1), there is mild facial asymmetry on the right side with swelling accentuating the Right nasolabial fold. Apart from that, there were no findings of local rise in temperature or pain on palpation.

Intraoral examination(figure 2 and figure 3) revealed firm to hard mass present with respect to the Right maxilla extending from the upper lateral incisor to the upper first premolar of the right side. The swelling was approximately 3cm x 2.5cm in size, of the same color as the mucosa, firm to hard in consistency, sessile with no tendency to bleed on palpation, and no discharge from the lesion.

Based on the above findings and clinical judgment, a provisional diagnosis of Ossifying fibroma was made with Cementifying fibroma, Odontogenic myxoma, Pyogenic granuloma, Osteoma as the differential diagnosis. In the present case study, an excisional biopsy was preferred over an incisional biopsy to give the patient the best possible under conditions beyond our control.



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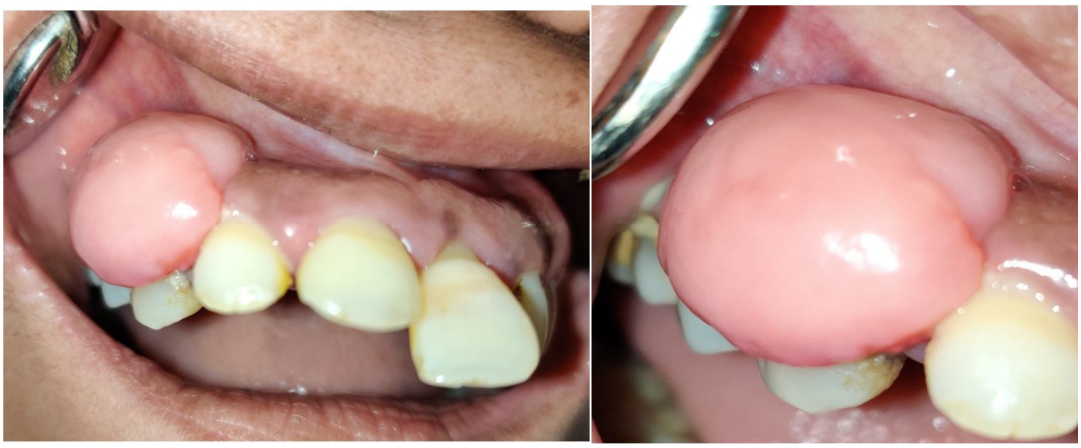

Fig1: Extraoral Examination

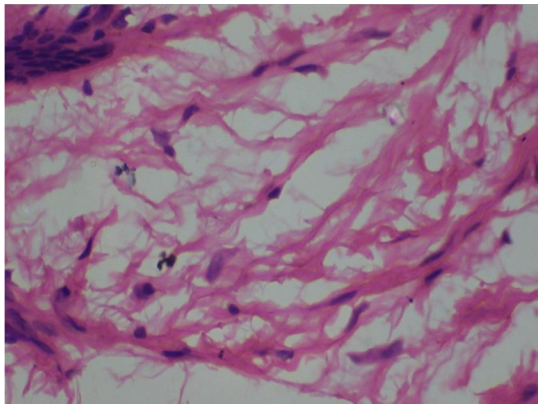

Fig 4 : Section stained with H &E revealed the presence of a proliferative stratified squamous epithelium at the surface with proliferative rate ridges and intact basement membrane. Underlying stroma is loose with proliferative plump mesenchymal cells altered in a background of abundance mucoid material with fine fibrils and numerous thin-walled capillaries with characteristic odontogenic epithelial rests are seen. The overall features are suggestive of 'Odontogenic Myxoma.

Fig 2 and 3 : Intraoral picture of the lesion in right maxilla

III. SURGICAL TECHNIQUE

Based on the above findings, a surgical plan of excision of the lesion along with curettage was planned. A crevicular incision was given with respect to the left first central incisor to the right first molar. After careful layer wise dissection and protecting all the important anatomical structures, a full-thickness buccal mucoperiosteal flap was elevated, tumor exposed and removed in toto(fig5), and sent for histopathological examination (fig4). The surgical cavity was thoroughly debrided with 5% povidone-iodine solution and peripheral osteotomy was done. The cavity was packed with iodoform soaked roller gauze and wound closed with 3-0 Silk 'stay' sutures.

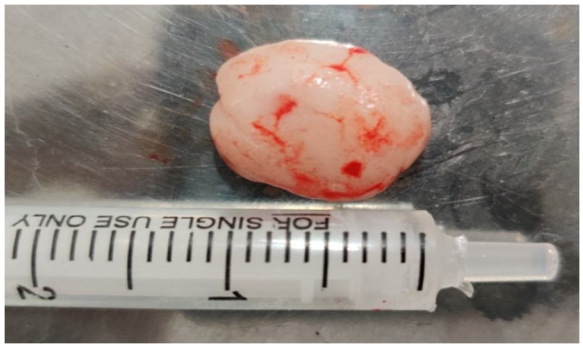

Fig 5: Excised Specimen

IV. DISCUSSION

Rudolf Virchow was the first person to have coined the term myxofibroma in 1863[4-7] for a group of tumors that had a histologic resemblance to the mucinous substance of the umbilical cord.[3-6] Odontogenic Myxoma was first mentioned in the literature by Thoma and Goldman in 1947.[6-10] In 1948, Stout redefined the histologic criteria for myxomas as true neoplasms that do not metastasize which led to the exclusion of recognizable cellular components of other mesenchymal tissues, especially chondroblasts, lipoblasts, and rhabdomyoblasts.[3,4]

In 1992, WHO classified Odontogenic Myxoma(OM) as 'An odontogenic benign tumor, which is of ectomesenchymal origin with or without the presence of odontogenic epithelium'.[4-6]This tumour has a histological resemblance to dental mesenchyme (dental papilla, follicle or periodontal ligament) and the presence of islands of odontogenic epithelium is not uncommon. OMs with relatively high recurrence rate shows extensive bone destruction and cortical expansion of the jaws are considered slow-growing tumors.

The tumor occurs across an age group that varies from 21 to 37 years[7-10]. It is rarely seen in patients younger than 10 years and older than 50 years of age. Gunahan et al. and Regazi et al. reported a distinct predominance in females (64–95%) and a predilection for the mandible.[13] According to Reichart and Philipsen, mandibular myxomas account for about 66.4%, with 33.6% in the maxilla. Whereas 65.1% of mandibular cases were located in the molar-premolar region, 73.8% were located in the same areas of the maxilla.[3,4,17] According to the above-mentioned studies, our case was different as the tumor was seen in a 55year old female, in the Maxilla and involved the upper anterior region.

Radiographically, larger multilocular Myxomas are more common in the posterior areas of the jaws and unilocular lesions are mostly located in the anterior.[4,7] The radiographic tumor margins may be either well-defined or poorly defined. On conventional radiographs, OM presents a myriad of different radiographic appearances, ranging from unilocular to multilocular (including tennis racquet patterns, soap bubble, and honeycomb appearances); with involvement of maxillary sinus or local alveolar bone and sometimes osteolytic destruction with or without osteogenesis.[16] The tennis racket appearance where the bony septae appear as triangular, square, or rectangular compartments with very fine trabeculation within them is the most common.[18]

Recommended therapy varies from curettage to radical excision. In the maxilla Complete surgical removal can be difficult as the lesion is not encapsulated because the myxoid tissue infiltrates nearby bone tissue as well as the close proximity of vital structures and more complex anatomy.[2,11] The prime reason for recurrence is related to incomplete removal rather than the intrinsic biologic behavior of the tumor.[11] These characteristics may explain the high rate of recurrence of myxomas, which range from 10% to 33% with an average of 25%.[3,11,12] Larger studies have demonstrated that radiotherapy and chemotherapy are found to be ineffective in controlling recurrent lesions.[18]

V. CONCLUSION

Odontogenic myxoma is an aggressive tumor in respect of biological behavior and extensiveness of such lesion. Better knowledge, clinical-radiographic appearance correlation, and histologic counterpart are mandatory for such lesions to avoid controversies and to reach the final diagnosis, and prevent further recurrences. The patient was followed for 2 years and no recurrence was found in this existing area.

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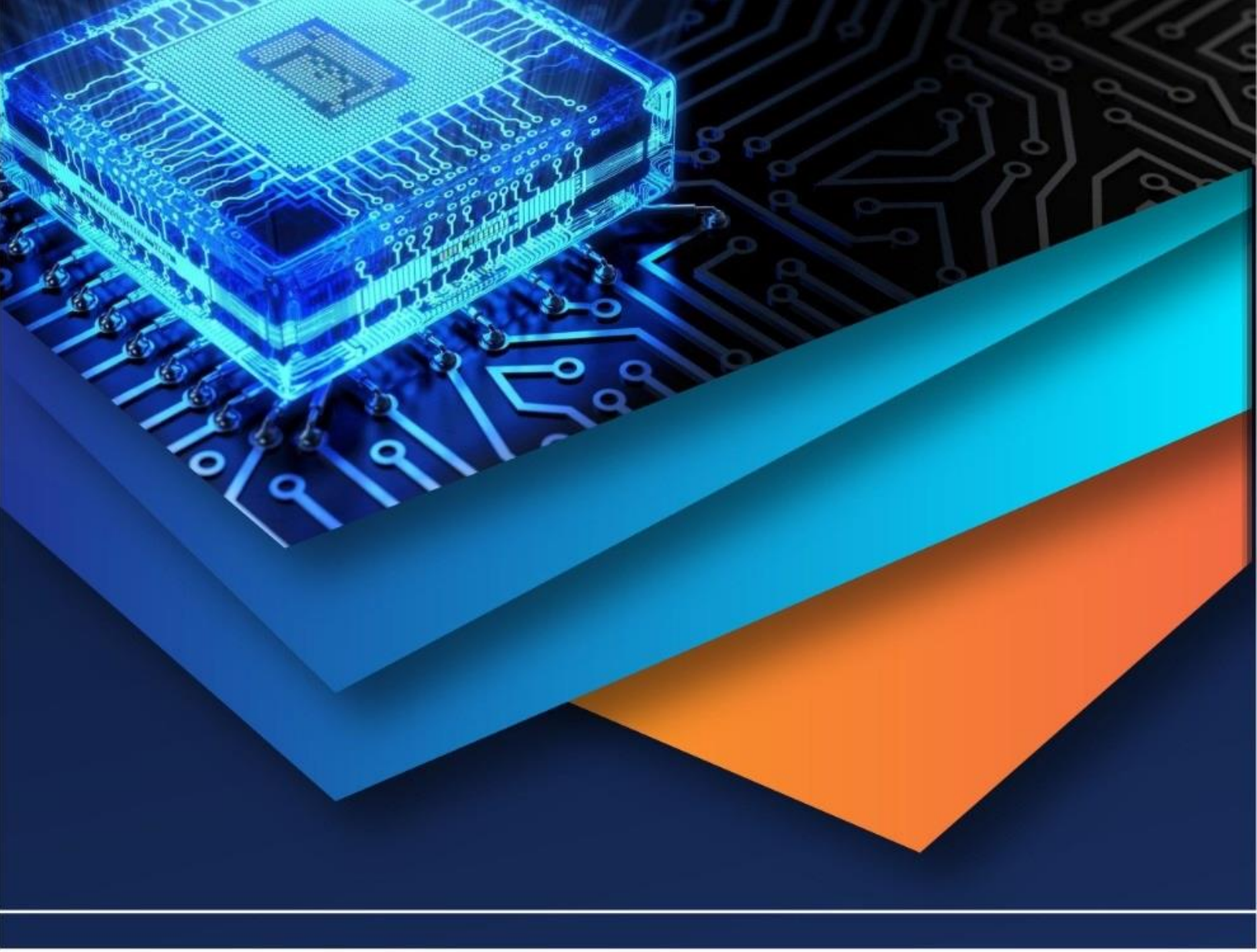

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