



ODONTOGENIC MYXOMA-A CASE REPORT

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ABSTRACT Odontogenic myxomas are benign but locally aggressive neoplasms found almost exclusively in the jaws and arise only occasionally in other bones. It is considered to be derived from the mesenchymal portion of the tooth germ. Clinically, it is a slow-growing, expansile, painless, non-metastasizing, central tumor of jaws, chiefly the mandible. Histopathology of odontogenic myxoma is characterised by bland, spindle to stellate cells set in a myxoid stroma. Radiographs usually reveal radiolucent lesions that can be uni or multilocular creating soap bubble or honey comb appearance. Here we report the case of a typical odontogenic myxoma in a 32-year-old male patient who presented with a well-defined bony hard swelling over lower right lingual mucosa; with brief review of clinical, radiographic, histopathological and immunohistochemical features.

KEYWORDS : Myxoma, Odontogenic, Mesenchymal , Locally Aggressive

INTRODUCTION

Myxomas are rare tumors of the hard sclerous and soft tissues in the body. Odontogenic myxomas comprise only a small fraction of myxomas (Shivashankara et al., 2017). It originates from the mesenchymal portion of the tooth germ. It is the third most common odontogenic tumor.(Sohrabi & Dastgir, 2021). Odontogenic myxomas (OM) account for 3–6% of all odontogenic tumors (Martínez-Mata et al., 2008).

According to a study by Regezi *et al* , it comprised 3% of the 706 odontogenic tumors reported. Daley *et al* in 1994 found them to comprise 5.1% of the 445 odontogenic tumors of their study. OM appears to originate from dental papilla, follicle, or periodontal ligament. The evidence for its odontogenic origin arises from its almost exclusive location in the tooth bearing areas of the jaws, its occasional association with missing or unerupted teeth, and the presence of odontogenic epithelium (Abiose et al., 1987). It usually presents itself in the second to the third decade of life, although some authors have reported the age of occurrence as 15–65 years yet few cases(King et al., 2008) have been reported in pediatric age group.

The odontogenic nature of the myxomas has been challenged by some authors because of the appearances, whilst consistent with odontogenic ectomesenchyme, could also represent a more primitive fibroblastic or undifferentiated tissue(Kansy et al., 2012). Though benign and slow-growing, odontogenic myxomas have the potential to be locally aggressive; this often leads these tumors to be confused mainly with malignant lesions, which reiterates the importance of histological diagnosis.(Martínez-Mata et al., 2008)

Case Report

A 32-year-old male patient was referred to our department with the complaint of discomfort while having food due to a swelling in the lower right gingiva for two and a half months. Patient noticed the swelling eight years back. Since the lesion was painless, patient didn't care for it. Initially the lesion was small but gradually it increased to the present size and started causing discomfort in the region. The patient's medical history and review of systems were unremarkable.

On extra oral examination, no visible swelling noted on the right side of the face. Overlying skin appears to be normal with no secondary

changes. There was no tenderness noted on palpation. There was no cervical mass or lymphadenopathy found.

On intraoral examination, a well-defined bony hard swelling measuring about 3cm x 1.5cm x 1cm noted in the gingiva of lower right premolar- molar region with well-defined borders. The mucosa overlying the area of the lesion was the same colour and texture as the surrounding mucosa (Figure 1).

On palpation, the overgrowth was nontender, pedunculated, bony hard in consistency, and non-pitting on application of pressure. The rest of the patient's clinical head and neck examination and general examination were non-contributory. Panoramic radiograph revealed a single large expansile mixed radio-opaque-radiolucent lesion extending from the periapical region of right first premolar to mesial aspect of right first molar without any trabeculations in the area of bony destruction (Figure 2).



Figure 1: Intraoral image showing an overgrowth on mandibular right premolar-molar gingival region extending from mesial aspect of 44 to distal aspect of 46.

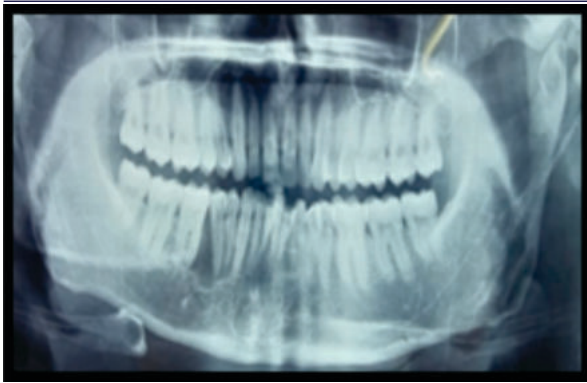


Figure 2: Panoramic radiographs showing a single large expansile mixed radiopaque-radiolucent lesion.

Under local anesthesia, incision biopsy was done. Macroscopically, the surgical specimen measured approximately 3cm × 3.9cm × 2.5 cm, on gross examination showed grayish white, glistening smooth, gelatinous mass.

Histopathological examination of excised specimen showed tumor mass without encapsulation. It showed spindle and stellate shaped cells in loose, abundantly myxoid connective tissue stroma, closely resembling the mesenchymal portion of a developing tooth. Overall histological appearance of the lesion revealed more amount of myxoid stroma in a less fibrous and acellular background (Figure 3).

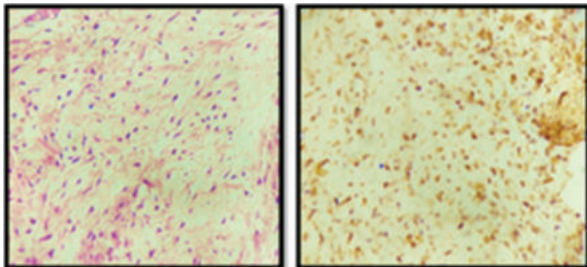


Figure 3: Microphotograph shows mixed area of fibrous tissue (H & E) & immunohistochemistry revealed strong positivity for vimentin

Excision was done later with wide surgical margins as high recurrences are reported and the post operative recovery was uneventful.

DISCUSSION

Odontogenic myxoma was initially named as 'myxofibroma' by Rudolf Virchow in 1863 due to its histologic similarity to the mucinous substance present in the umbilical cord. (Sohrabi & Dastgir, 2021) In 1947, it was renamed to 'odontogenic myxoma' by Thomas and Goldman (Sohrabi & Dastgir, 2021). World Health Organization (WHO) defines this tumor as 'a locally invasive neoplasm that consists of angular and rounded cells in mucoid background'. Myxomas are rare benign tumors of mesenchymal origin. They are locally invasive and occur in various tissues, including cardiac, skeletal, cutaneous, and subcutaneous tissue, aponeuroses, genitourinary tract, and skeletal muscles (Sohrabi & Dastgir, 2021). The lesion is benign and occurs commonly in the skin, the genitourinary tract, the gastrointestinal tract or in organs such as the liver, the spleen or even the parotid gland. (Kumar et al., 2014)

It has been suggested that OM has an odontogenic origin based on the occasional presence of small islands of odontogenic epithelium, its appearance in the mandible and maxilla, and its histomorphological similarity to the mesenchymal tissue of the tooth germ. (Gómez-Herrera et al., 2020). Stout defined myxoma as, "a true neoplasm made up of tissues resembling primitive mesenchyme". Thus, it is composed of stellate cells arranged in loose mucoid stroma which also contains delicate reticulin fibres. (Kumar et al., 2014). Immunohistochemical studies revealed positivity for markers like vimentin and muscle specific actin. (Lo Muzio et al., 1996). Radiographically, the tumor presents as a unilocular or multilocular radiolucent lesion with well-defined borders with fine, bony trabeculae within its interior structure expressing a 'honeycombed,' 'soap bubble,' or 'tennis racket' appearance. Unilocular appearance may be seen more commonly in

children and in the anterior part of the jaws. (Manne et al., 2012). Enucleation and curettage has proved an effective approach in several cases but the risk of recurrence appears to be higher. (Kawase-Koga et al., 2014).

CONCLUSION

Odontogenic myxomas are uncommon, benign intraosseous neoplasms that arise from odontogenic ectomesenchyme and resemble the mesenchymal portion of the dental papilla. It commonly occurs in the second or third decade of life thus corresponding to ameloblastoma in age distribution. It is a central lesion of the jaw which expands the bone and may cause destruction of the cortex. It is not a rapidly growing lesion and pain may or may not be a feature. Histopathology shows spindle and stellate shaped cells in loose, abundantly myxoid connective tissue stroma, closely resembling the mesenchymal portion of a developing tooth. Overall histological appearance of the lesion revealed more amount of myxoid stroma in a less fibrous and acellular background. Radiographically they might be unilocular or multilocular radiolucency which can cause displacement or resorption of tooth. Due to high recurrence rate, wide excision as a treatment modality is usually preferred for odontogenic myxoma but small lesions can be cured with simple enucleation and curettage also.

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