

# Myxoma of mandible – A case report with literature review

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## Abstract

The odontogenic myxoma is an infiltrative benign tumor of bone that occurs almost exclusively in the jawbones and comprises 3% to 6% of odontogenic tumors. This neoplasm is mesenchymal and the myxomatous component is gelatinous in nature. Odontogenic epithelium may occur occasionally in the stroma. Although benign the odontogenic myxoma can cause considerable local destruction. An odontogenic myxoma occurring in the anterior mandible of an 18 year old male is reported here with literature review.

**Keywords:** *Aggressive, mandible, odontogenic myxoma*

## Introduction

Myxomas of the jaws are believed to arise from odontogenic ectomesenchyme. They bear a close microscopic resemblance to the mesenchymal portion of a developing tooth. Myxomas are predominantly found in young adults but may occur over a wide age group. The average age for patients with myxomas is 25 to 30 years.<sup>1</sup> The tumor may be found in almost any area of the jaws affecting the mandible more commonly. Smaller lesions may be asymptomatic and are discovered only during a radiographic examination. Larger lesions are often associated with a painless expansion of the involved bone. Recurrences of the odontogenic myxoma are quite common and have been reported in 25% of treated patients.<sup>1</sup>

## Case Report

An 18 year old male reported to the dental hospital with a chief complaint of a swelling in the anterior region of the jaw since four months. Intermediate pain was present which increased on mastication. His medical history was non-contributory. On clinical examination a well defined swelling was noticed in the region of the anterior mandible extending below the inferior border (Fig 1). No regional lymph nodes were palpable.

Intra oral examination revealed a swelling in the anterior mandible extending from the 33 region to the 43 region obliterating the labial vestibule. The mucosa over the swelling and adjacent area was normal. No surface discharge was seen (Fig 2).

Orthopantomogram revealed a mixed lesion with distinct borders extending from the 33 to 34 region, root resorption of the mandibular central incisors was seen (Fig 3). No sclerotic bone formation was seen. A provisional diagnosis of aggressive ossifying fibroma was made and a differential diagnosis of odontogenic myxoma was made.

On histopathological examination stellate and spindle shaped cells in an abundant, loose myxoid stroma was observed (Fig 4A & 4B) Few islands of odontogenic epithelium was also seen.

A final diagnosis of Odontogenic Myxoma was established.

Bearing in mind the aggressive potential of the lesion an anterior segmental resection was performed with a reconstruction planned later. The patient was discharged uneventfully and did not show any recurrence upto a one year follow up.



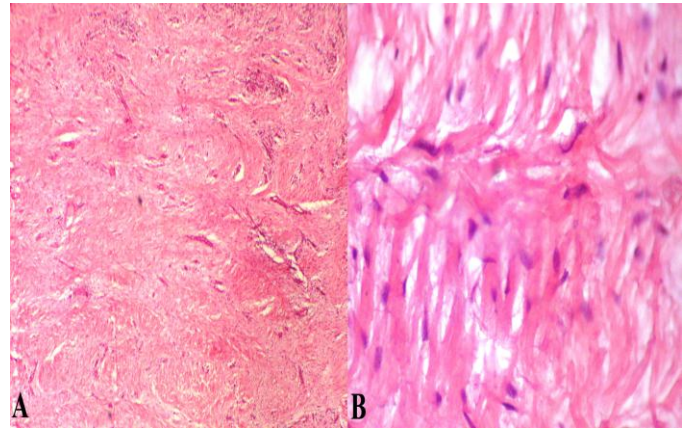
**Fig 1:** Extraoral view showing a swelling in the anterior mandible.



**Fig 2:** Intraoral view of the lesion.



**Fig 3:** OPG showing a mixed lesion of the anterior mandible extending from 33 to 34 regions.



**Fig 4:** **A.** Histopathologic section showing, spindle-shaped cells in an abundant, loose myxoid stroma with few islands of odontogenic epithelium. **B.** Histopathologic section showing stellate shaped cells in a mucoid stroma.

### Discussion

Odontogenic myxoma appears to originate from the dental papilla, follicle or periodontal ligament. This is a proven origin since it arises exclusively from the tooth bearing areas of the jaws along with the presence of odontogenic epithelium.<sup>2</sup>

Most are situated in the tooth-bearing areas, and the approximate ratio of maxillary to mandibular lesions has been reported as 3:4. Myxomas of the jawbones tend to be larger in children. The chief complaint is usually that of a slowly enlarging, painless expansion of the jaw with possible spreading, loosening and migration of teeth. Root resorption is occasionally seen. Lip numbness (rare) and pain (occasional) are symptoms.<sup>3</sup> Resorption of roots of mandibular central incisors was seen in the present case.

Radiographically it presents as a multilocular or unilocular radiolucency or that may displace or cause resorption of teeth in the area of the tumor. The margins of the radiolucency are often irregular or scalloped. Large myxomas of the jaws show a "soap bubble" appearance which need to be differentiated from ameloblastomas.<sup>1</sup> The present case showed a mixed radiolucent-radiopaque lesion with no sclerosis.

On histopathology, odontogenic myxomas characteristically present as abundant loosely arranged mucoid stroma with rounded, spindle-shaped or angular cells. It is relatively acellular and avascular. Cellular and nuclear pleomorphism, mitotic activity may not be present. Remnants of odontogenic epithelium in the form of small islands have been occasionally noted.<sup>4</sup>

The present case showed spindle-shaped cells in a mucoid ground substance, odontogenic epithelial islands were also evident sparsely.

A myxoma may be microscopically confused with other myxoid jaw neoplasms, such as chondromyxoid fibroma or the myxoid neurofibroma chondromyxoid fibroma should have areas of cartilaginous differentiation.

Conservative treatments are less invasive which can be done through an intraoral approach. It helps to preserve aesthetics and function but the risk of recurrence appears to be higher.<sup>5</sup> Hence the treatment has to be aggressive.

The aggressive nature is well documented due to its penetrative growth into the bone marrow and presence of high amounts of hyaluronic acid. Recurrence rates from various studies average approximately 25%. Apparently, this behavior is a consequence of the tumor's tendency to spill into the surrounding marrow spaces.<sup>6</sup> To minimize recurrences, resection of the tumor with a generous amount of surrounding bone is necessary. In spite of local recurrences, the overall prognosis is good and metastases do not occur.

### **Conclusion**

Even though the odontogenic myxoma is a benign lesion its treatment should be aggressive due to its high recurrence mainly due to its penetrative growth pattern. Follow up of cases is mandatory. In the present case a segmental resection of the anterior mandible was done followed by reconstruction. The patient was followed up for one year and no recurrence was observed.

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