

# Ameloblastic Fibroma of Mandible - A Case Report

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doi: 10.5866/2017.9.10128

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### Article Info:

Received: April 11, 2017

Review Completed: May 10, 2017

Accepted: June 10, 2017

Available Online: June, 2017 (www.nacd.in)

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### ABSTRACT:

Ameloblastic fibroma is a relatively uncommon benign tumor of mixed odontogenic origin that can occur in either the mandible or the maxilla, but is most frequent in the posterior region of mandible. It usually occur in the first two decades of life and associated with impacted tooth, causing a delay in eruption or altering the dental eruption sequence. This report presents a case of ameloblastic fibroma in a 45 year old male who reported with a swelling in the right lower jaw region since 6 months. Segmental resection of the mandible was carried out and reconstruction was done with iliac crest graft. Long term prognosis showed satisfactory healing and good facial esthetics.

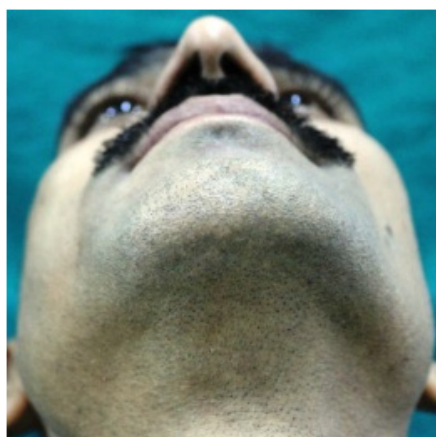
**Key words:** Ameloblastic fibroma, mandible, odontogenic tumor

## INTRODUCTION

Ameloblastic fibromas are a rare variety of benign odontogenic tumors composed of proliferating odontogenic epithelium embedded in a cellular ectomesenchymal tissue resembling dental papilla.<sup>1</sup> It was first described by Kruse in 1891 and later classified as a separate entity by Thoma and Goldman in 1946.<sup>2, 3</sup> It can appear in either the maxilla or mandible, with the posterior region of the mandible as its most common anatomic site. Diagnosis is generally made through routine radiographic examinations performed to look for an impacted tooth as a cause of the swelling.<sup>4</sup> Conservative excision seems to be the treatment of choice for ameloblastic fibroma. A modified block resection, rather than a curettage or simple excision, has been suggested.<sup>5</sup>

## CASE REPORT

A 45 year old male patient reported to the department of oral & maxillofacial surgery, with the chief complaint of a swelling in the right lower jaw since 6 months. The swelling was insidious in onset and gradually increased to the present size. Extraoral examination revealed a diffuse swelling measuring 2 x 2 cm on the right side of the mandible, extending antero-posteriorly 2 cm posterior to the right corner of the mouth to the angle of the mandible (Figure 1). Swelling was not associated with any symptoms like pain. Intra oral examination revealed swelling extending from distal aspect of second molar to the anterior border of ramus of the mandible causing vestibular obliteration which is non tender and hard in consistency. On lingual aspect, swelling was mildly perceptible and the



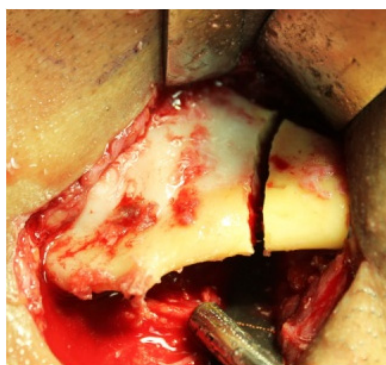
**Figure 1:** Preoperative clinical photograph showing swelling in the right angle region



**Figure 2:** Preoperative radiograph showing radiolucency involving the right ramus and angle of the mandible



**Figure 3:** Preoperative 3D CT showing cortical expansion due to ameloblastoma involving the right ramus



**Figure 4:** Intraoperative photograph showing the osteotomy cut for the resection of the ameloblastoma



**Figure 5:** Photograph showing the resected ramus with the ameloblastoma lesion



**Figure 6:** Intraoperative photograph showing the harvesting of iliac graft



**Figure 7:** Intraoperative photograph showing reconstruction of the resected segment with iliac graft and reconstruction plate



**Figure 8:** Postoperative radiograph showing reconstruction of the resected segment with iliac graft and resected condylar segment secured with reconstruction plate

overlying mucosa was intact and normal in color. Orthopantomograph revealed a well defined unilocular radiolucent lesion with sclerotic radiopaque margin extending from 37, involving impacted third molar, ramus up to coronoid process and subcondylar region of right side of mandible (Figure 2). The CT findings revealed expansion of buccal and lingual cortical plates and perforation of the lateral aspect of ramus of the mandible (Figure 3). Based on the clinical and radiological examinations, a provisional diagnosis of ameloblastoma was made. An incisional biopsy was done providing a diagnosis of ameloblastic fibroma. Considering the aggressive nature of ameloblastic fibroma, resection of the lesion followed by reconstruction with iliac crest graft was planned. Submandibular incision was given 2 cm below inferior border of right side of mandible and layer wise dissection done. Facial artery and vein were identified and ligated. The lesion was exposed and the segmental resection of the mandible was carried out using a gigly saw with a safety margin of 1 cm extending anteroposteriorly from distal aspect of right first molar region to condyle along with the coronoid process (Figure 4 and 5).

For harvesting the iliac graft, a sub-crestal window technique was performed by making skin incision over the anterior iliac crest. Muscles were stripped sub-periosteally from the ilium, and the cortico-cancellous block of length 4 cm was harvested by using osteotomes (Figure 6). Following the removal of the bone graft, hemostasis was achieved and a drain was placed into the site followed by closure of the periosteal layer. The muscle layers and subcutaneous tissue were closed with 3-0 vicryl. The skin was closed with 3-0 prolene (interrupted sutures).

The reconstruction plate was contoured and the condylar segment from the resected specimen was sectioned and fixed as a free graft. Stabilization of the harvested iliac crest graft was done using 2.5 x 10 mm titanium screws (Figure 7 and 8). Layer wise closure was done with 3-0 vicryl and 5-0 prolene extra orally). Excisional biopsy confirmed the diagnosis as ameloblastic fibroma. The patient has been followed up periodically till 3 years. The outcome has been aesthetically satisfactory and there have been no signs of recurrence.

## DISCUSSION

Ameloblastic fibroma is a true histologic biphasic tumor because epithelial and mesenchymal components are part of the neoplastic process.

According to Reichart and Philipsen, male to female ratio was 1.4:1. Mean age of occurrence is 14.8 years with a range of 0.5 to 62 years. It is a slow growing tumor which is commonly located in the mandibular posterior area and is often associated with an impacted tooth. Philipsen et al. proposed that the innocuous behavior of the lesion does not justify aggressive initial treatment but rather meticulous surgical enucleation with close clinical follow-up.<sup>4</sup> Muller et al reported that since 1960, 44% cases of ameloblastic fibrosarcoma (19/43) had arisen from ameloblastic fibroma.<sup>6</sup> A recurrence rate of 43.5% and 18% was reported by Trodahl and Zallen, respectively. Gundlach was of the opinion that simple enucleation would not be sufficient for ameloblastic fibroma.<sup>7</sup> An aggressive surgical treatment is, therefore, suggested by some authors because of the possibility of malignant transformation of an ameloblastic fibroma to an ameloblastic fibrosarcoma. A modified block resection of the mandible with the placement of an immediate autologous bone graft is treatment option for an extensive tumor and/or multiple recurrences. Complete excision of the tumor with long-term clinical and radiographic follow up is highly recommended.<sup>8</sup>

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