

# Dental implant after dredging of ameloblastoma in the mandible: A case report

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## Abstract

Ameloblastoma is a benign aggressive tumour of jaw and the most common odontogenic tumour. Instead of complete resection dredging method is being used as a conservative surgical technique. Dredging is the excellent method for the treatment of ameloblastoma and dental implant can be possible on the regenerated bone of the mandible effectively

**Keywords:** Ameloblastoma, Dredging, Implant.

## Introduction:

Ameloblastoma is a locally invasive benign epithelial odontogenic tumour of jaw, mostly occurs in mandible.<sup>1</sup> The relative frequency of the mandible to maxilla is reported as varying from 80-20%. Sign and symptoms of ameloblastoma are slow growing, painless swelling, causing expansion of the cortical bone, perforation of the lingual and/or buccal plates and infiltration of soft tissues. There is often delay in the diagnosis because of its slow growing nature.<sup>2</sup> Radiologically ameloblastomas typically form rounded, cyst like radiolucent areas with moderately well- defined margins and typically appear multilocular.<sup>3</sup> Ameloblastoma have a high post-surgical recurrence rate. They often recur after simple conservative surgeries, such as enucleation.<sup>4</sup> Resection of the mandible has been the principal treatment of ameloblastoma though it is associated with numbers of complications.<sup>1</sup> The dredging method was thus developed as an alternative, conservative treatment of ameloblastoma. This method leading to lower recurrence rate by removing all tumours and accelerates new bone formation and dental prosthesis can be performed on the reformed bone.<sup>4</sup>

## Case Presentation:

A 19-year-old boy presented with a swelling in the left side of lower jaw which was asymptomatic for six months. However, the time since the lesion started was undetermined. Patient was unable to report the time of evolution of the lesion. There was no history of trauma or toothache or any discharge from the swelling. On extra oral examination there was little facial asymmetry, no palpable lymph nodes were found. There was a solitary well defined swelling over the left lower third of the face measuring about 4cm\*3cm extending 2cm from the left angle of the mouth to left lateral border of the mandible. The surface was smooth and the overlying skin was free and normal color. It was non tender and firm in consistency.

On intra oral examination revealed well-defined smooth solitary swelling in the left lower posterior buccal vestibule extending anteroposteriorly from 1<sup>st</sup> molar to retromolar region and buccolingually 2cm from the buccal surface of the molars to lingual surface. Surface was smooth and colour of mucosa revealed normal overlying the swelling. It was non tender and hard in consistency with buccal and lingual cortical plate expansion. The patient had got developmental anomalies like retained deciduous mandibular central incisors and left maxillary canine and congenital missing of permanent 23,31,41 teeth (Fig 1).

Patient was subjected to radiographic evaluation by OPG and computed tomography. Ameloblastoma was thought to be our provisional diagnosis as it is the most common benign tumour in the molar region of the mandible. Radiology shows a well-defined radiolucent area in the left side of the mandible extending from distal to 2<sup>nd</sup> premolar to condyle and coronoid process of the same side of the mandible (Fig 2).

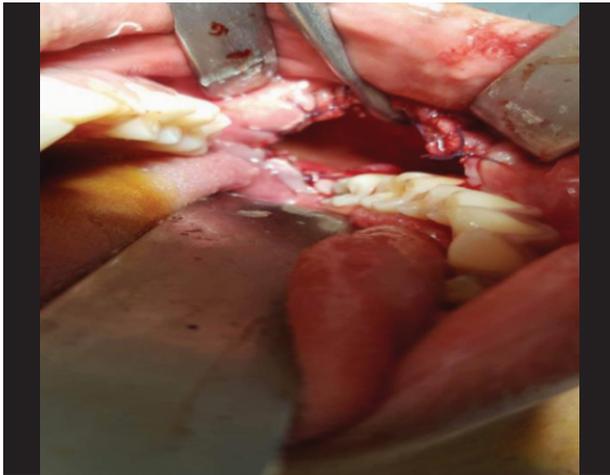
Incisional biopsy was performed and histopathological examination confirmed follicular ameloblastoma. Patient was subjected to conservative surgical procedure dredging. Dredging method consists of deflation, enucleation and repeated dredging. Deflation was done under GA to release the intra cystic pressure and facilitate the formation of bone. After 2 months of deflation enucleation was performed and bony was kept open.

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Then 2 times dredging were performed here 6 weeks interval. Every time we sent the tissue for histopathological examination and finally we got the tumour free scar tissue. One year after operation we placed 2 implant fixtures on that regenerated bone (Fig-3 and 4). The patient is in regular follow up with us for the last 2 years.



**Figure 1:** Intraoral finding's image



**Figure 2:** Initial radiograph



**Figure 3:** CBCT for evaluation of implant



**Figure 4:** Post-operative radiograph of dental implant

**Discussion:**

Ameloblastoma originate from epithelial remnants of dental embryogenesis.<sup>5</sup> Although a wide variation in the range of ages can be observed, ameloblastoma primarily affects young adults between the fourth and fifth decades of life. The typical ameloblastoma begins as a slowly destructive asymptomatic and intraosseous expansion, being a lesion that tends to expand and infiltrate rather than perforate the bone. However, diagnosis can also be suggested through a routine radiographic examination.<sup>6</sup> Patient may experience pain or numbness, swelling, malocclusion, tooth mobility or secondary infection. Ameloblastoma can occur at any location in the mandible or maxilla, but the regions of the inferior molars and mandibular ramus are the most prevalent anatomical location.<sup>7</sup>

Larger tumours may rupture the bone cortex and infiltrate adjacent soft tissues on the lingual surface of the mandible. When the tumour occurs in the maxilla, the posterior region is the most affected site. Ameloblastoma occur in distinct clinical and radiographic situations, which need to be considered separately due to therapeutic and prognostic differences.<sup>8</sup>

For reporting ameloblastoma, it seems acceptable to group the treatment regimens into three modalities being conservative that includes enucleation and curettage, marsupialization, dredging and radical surgery. Mandibular reconstruction of large defect may need in case of large ameloblastoma. Dredging method is considered to restore the normal contour and function of jaw with complete removal of tumour tissue. Dental implant can be possible on the regenerated mandible.

**Conclusion:**

Ameloblastoma is the most commonly occurring tumour in the mandibular body and ramus region. Dredging is the excellent method for the treatment of ameloblastoma and dental implant can be possible on the regenerated bone of the mandible effectively.

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