



**Case Report**

# Diagnostic and Therapeutic Pieges Before Clinoradiological Elements Eviding a Mandibular Ameloblastoma

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**Abstract:** The management of mandibular ameloblastoma is currently radical by many teams, to reduce the risk of recurrence. And this consists of interrupted mandibulectomy often in the course of a diagnosis based on radiological, clinical and epidemiological elements without prior histopathological certainty. The document provides a descriptive and cross sectional study with prospective data collection, conducted in the department of Maxillofacial and Aesthetic Surgery of the Mohammed 6 Teaching Hospital of Marrakech, describe the case a patient of ages 29 years, received for mandibular swelling evolving for 3 years with slowly increasing volume. The clinical and radiological signs simulating ameloblastoma. In place of an interrupted subtotal mandibulectomy that was usually planned, a simple biopsy was performed and the results favored an epidermoid cyst rather than an ameloblastoma. The indication of an enucleation with curettage supported was carried out in place of an interrupted mandibulectomy usually performed before this radio-clinical chart. The biopsy prior to any radical surgery for suspicion of ameloblastoma has two notorious advantages: the diagnostic confirmation and the typology of the ameloblastoma therefore the precision of its high invasiveness or not.

**Keywords:** Mandibular Ameloblastoma, Radiological Image, Preoperative Biopsy, Epidermoid Cyst

## 1. Introduction

Ameloblastoma is a benign odontogenic tumor of locally invasive epithelial origin, accounting for 1% of all maxillary tumors and cysts [1, 2]. It is localized in the mandible in 80% of cases and in the maxillary in 20% of cases [3-5].

Its surgical management is radical by many teams whose purpose is to reduce the risk of recurrence and this, based on a diagnosis based on radio-clinical elements without prior histopathological certainty [6, 7]. Then the problem of lack of assurance on the parallelism between the surgical sanction and the diagnostic authenticity.

We illustrate this through this observation of a young

patient with a mandibular mass considered as ameloblastic based on clinical and radiological elements, but whose histopathological examination was in favor of an epidermoid cyst.

## 2. Patients and Methods

### 2.1. Type and Period of Study

A descriptive and cross sectional study with prospective data collection, conducted in the department of Maxillofacial and Aesthetic Surgery of the Mohammed 6 Teaching Hospital of Marrakech, over a period of 6months from June to December 2018.

It consists, of the description of the case of one patient, received for mandibular mass with clinical and radiological signs simulating ameloblastoma, but whose histopathological examination was in favor of an epidermoid cyst.

## 2.2. Variables Studied

The following variables have been studied: Age, sex, anterior surgical, preoperative morphological profile (characteristics of the tumor, mouth opening, lip and chin sensitivity), preoperative analysis by radiology, result of preoperative biopsy, indications of surgery before and after the biopsy, duration of surgery, postoperative morphological profile, and postoperative biopsy.

## 3. Observation and Result

A 29-year-old patient, single, without pathological history, was referred to us for left mandibular tumor evolving since 3 years. The patient was in good general condition.

On examination, left mandibular swelling from sector 3 to the left pre angular region, covered with apparently healthy skin without collateral venous circulation or cutaneous fistula. It measured 7cm by 5cm (figure 1).



**Figure 1.** Preoperative frontal image showing a mass at the expense of the left angular relief of mandible.

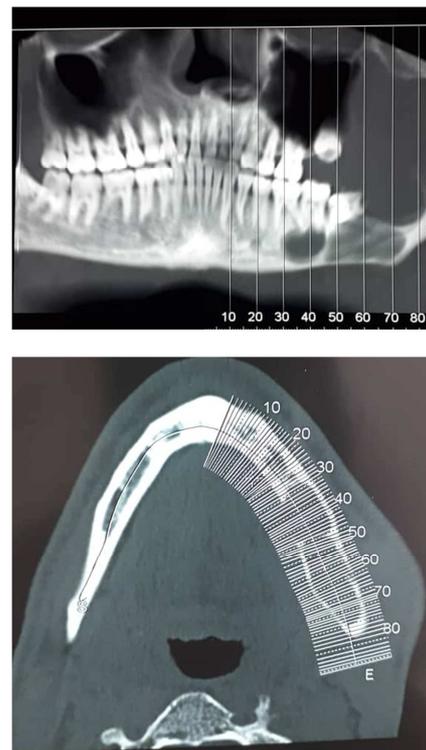
The mass was regular, painless, causing significant facial deformity. Its consistency was sometimes hard and sometimes renovating. There was no increase in local heat, no sign of Vincent, no facial paralysis, no cervical lymphadenopathy or trismus. In mouth, bulging swelling in the vestibule going from 3.6 to the relief of the upper third of the ascending branch of the mandible, covered with a mucosa of healthy aspect. Lingual mobility was preserved. Functional discomfort was essentially swallowing. There was no dental mobility. The panoramic view, made three months before admission, showed a clear radio lesion in the form of a large gap, homogeneous with more or less sharp, regular contours, occupying the entire rising branch giving the appearance of a bubble of soap, connected to a small gap in the angular region

by a bone bridge. The mandibular basilar margin was unbroken, but internal and external cortical blistering was noted without intratumoral calcification. The inferior alveolar nerve was pushed back and not infiltrated. No wisdom teeth included (figure 2).



**Figure 2.** Image of the dental panoramic, three months before admission.

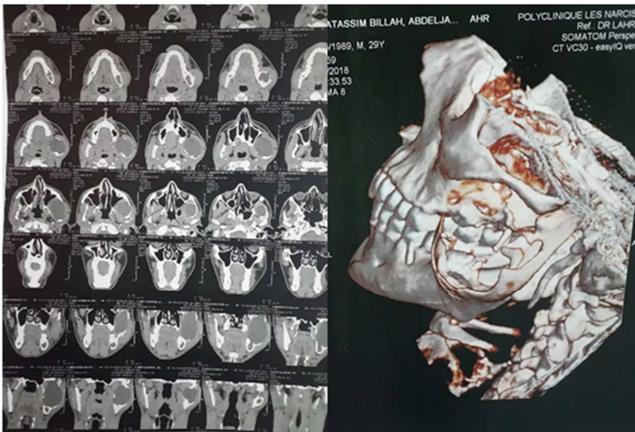
The CT scan performed three months after panning confirmed the lesions, but more extensive, like homogeneous multilocular hypodense images, occupying the angle and the left mandibular ramus with rupture of the internal cortex. His measurements were 7cmx6x4cm (figure 3).



**Figure 3.** Image of the CT scan in 3D reconstruction and in axial section.

In the cervico-facial CT injected with multiplanar (figure 4) and three-dimensional reconstructions, the result was similar to that of the standard radiograph with more precision on tumor volume, local extension, and homogeneity, rupture of cortical and basal margin. The tumor measured 7 x 6 x 4 cm from the pre-angular region at the base of the condyle. It was hypo-dense, enhanced by contrast medium, multi-cystic, compartmentalized, non-infiltrating, without necrotic

reworking, with repression of the para-pharyngeal cells and the infra-temporal lodge. CT also excluded the existence of subclinical cervical lymphadenopathy.



**Figure 4.** CT images in axial section, coronal and three-dimensional reconstruction.

Faced with these clinical and radiological arguments, the diagnosis of ameloblastoma was strongly suspected.

In place of an interrupting subtotal mandibulectomy that was usually expected in such a situation, the presence of a soap bubble image in the angular region motivated the prior completion of a simple biopsy under local anesthesia; and the results were in favor of an epidermoid cyst rather than an ameloblastoma.

This radically changed the therapeutic plan by replacing interrupting mandibulectomy with enucleation with curettage.

Postoperative histopathological findings confirmed preoperative findings. The operative follow-up was simple and the socio-occupational reintegration was quick and easy. Patient is followed regularly since 6 months.

## 4. Discussion

In light of the observation that we reported, there was a discrepancy between the radio-clinical data in favor of ameloblastoma and the histopathological data concluding with an epidermoid cyst.

Radical surgery would have had greater morbidity with significant psychological, financial and socioprofessional reintegration results.

We propose to restart the discussions on the interest of a biopsy before any radical surgery for suspicion of maxillary ameloblastoma.

Choosing a biopsy before any radical mandibular surgery for ameloblastoma should be a key concern for the maxillofacial surgeon.

The majority of authors seem to have endorsed the principle of radical treatment without prior biopsy, allowing alone to avoid a lost time by reducing the number of interventions. And this is supported by several series in which patients were operated on as ameloblastoma based on clinical radiological elements and all confirmed as such by postoperative histopathological examination [6, 8-10].

Some minority authors, for their part, do not immediately indicate a radical surgery without prior histological confirmation, despite the relevance of clinical and radiological arguments [11].

This attitude, which was motivated in our patient by this aspect of soap bubbles observed in the angle and the branch of the mandible, where ameloblastoma or squamous cyst are discussed systematically [12, 13] had two advantages major: diagnostic confirmation and typology of ameloblastoma therefore the accuracy of its high invasiveness or not (follicular type or plexiform) [8, 9, 14, 15].

This has the direct result of choosing a radical or conservative surgery. In fact, the follicular and plexiform types have an important invasiveness, which explains the high rate of recurrence in case of conservative treatment [9], which favors a radical treatment for these forms. This precaution can not be taken without prior biopsy. It thus makes it possible to avoid to the patient the inconveniences of a radical surgery with multiple repercussions: functional, cosmetic and psychological without objective justification. More over, the low frequency of ameloblastomas among benign maxillary tumors, which is only about 30% [16, 17], should normally plead in this direction. Especially since the therapeutic options between these pathologies differ radically [11, 18, 19]. This option may also have a forensic interest. The disadvantages of this option, which are the of resurgence of the tumor by a "whiplash" effect that can be minimized by biopsy results obtained on time to allow surgery before the 4 weeks following the biopsy, and the increase in the number of surgeries, however remain relative. This requires an upgrade of pathologists (immunohistochemistry), as well as better education and information of patients. Certainly, in terms of diagnosis, as CERNEA said: "the diagnosis of bone tumors is done radiographically in hands" [20, 21], but we believe that it will be wise to use radiography to make assumptions before confirming them by histopathological examination. This observation challenges the importance of pathologists examination before any radical surgery for suspicion of ameloblastoma. It allows the diagnosis, specifies the level of aggressiveness in case of ameloblastoma and dictates the therapeutic behavior in a serene way. Without this review, we would have remained on the diagnosis of mandibular ameloblastoma with radical treatment that resulted.

## 5. Conclusion

Ameloblastoma, a benign tumor that is appallingly recurrent and locally extensive, is often completely excised, unlike other benign maxillary tumors.

In connection with this clinical case, it should be pointed out those clinical and radiological lesions simulating ameloblastoma may actually be maxillary cystic tumors. Hence from our point of view,

the necessity of the biopsy before any radical maxillary surgery of the jaws for suspicion of ameloblastoma, with timely results to allow surgery within 4 weeks following biopsy.

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