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Research Article

Mandibular Ameloblastoma: Management and Therapeutic Problems (About 20 Cases)

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Abstract

Objective: To identify the diagnostic pitfalls, therapeutic difficulties and to propose a consolidation of the management of ameloblastoma in Morocco.

Material and Methods: We collected ameloblastomas treated in the service between 2007 and 2014. A data collection form was on the age, sex, tumor location, radiological aspects, type of surgery, histology and evolution.

Results: 20 patients were included, 11 men and 5 women. Their average age was 35 years. The symptom most frequent revealing was swelling. 75% of tumors were polycyclic contours, finely partitioned to radiology. Conservative treatment was used in 9 patients (45%). The histological subtype was specified in 18 cases. 6 cases recurrence after conservative treatment. In case of recurrence, radical treatment with interrupter resection and iliac graft was proposed second line.

Conclusion: Ameloblastoma is a benign tumor with locally aggressive that affects young subjects, hence the interest of a diagnostic review and codification of its management in Morocco.

Keywords: *Ameloblastoma; Mandible; Diagnosis; Surgery; Recurrence*

Introduction

The ameloblastoma is a benign tumor, scalable and local invasiveness, which originates from odontogenic epithelium, and grows in a fibrous stroma, without reproducing in its development of calcified tissues such as enamel, dentin or other materials [1]. The first descriptions in the literature dating back to the XVII century, but it is Malassez in 1885 which attributes the origin to the adamantine body. Since the améloblastome continues to challenge pathologists by the variety of histological types and therapists by misleading clinical and evolutionary aspect of some forms that raise problems of diagnosis and treatment difficult.

Ameloblastomas are rare and account for only 1% of all tumors of the maxillary and about 11% of all odontogenic tumors [2].

The objective of this study was to identify all ameloblastomas supported in our department over time, to identify diagnostic pitfalls, therapeutic difficulties and to propose a consolidation of the management of the améloblastome Morocco.

Material and Methods

We collected ameloblastomas treated in the service between 2007 and 2014. A data collection form was on the age, sex, tumor location, radiological aspects, type of surgery, histology and evolution.

Results

The study focused on 20 patients, 11 men (55%) and 9 women (45%). Their average age was 35 years (12 - 86 years). The delay before consultation ranged from 2 months to 15 years, with an average of 4 years. The symptoms leading to consult was swelling in 20 cases

(100%) (Figure 1), pain in 15 cases (75%), mobility or tooth loss in 10 cases (50%), and sensitivity of the alveolar nerve lower in 6 cases (30%). In 10 patients (50%), the tumor was located at the corner and level of the horizontal branch. In half of these cases, the ascending branch was reached. And we have not found a location in the maxilla.

Figure 1: *swelling of the angle of the jaw to the right.*

The panoramic radiograph showed bone lysis polycyclic contours, finely partitioned in 15 cases (75%) (Figure. 2), a unicystic appearance in 5 cases (Figure 3). We have also noted a dental inclusion in 2 cases. Cortical lysis was found in all patients who received a CT scan (Figure 4).

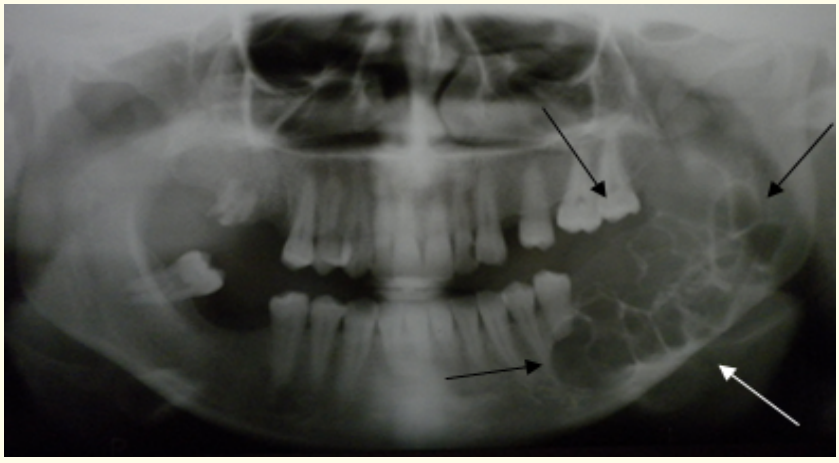


Figure 2: *Dental panoramic X-ray: appearance in "soap bubbles" of a multicystic ameloblastoma.*

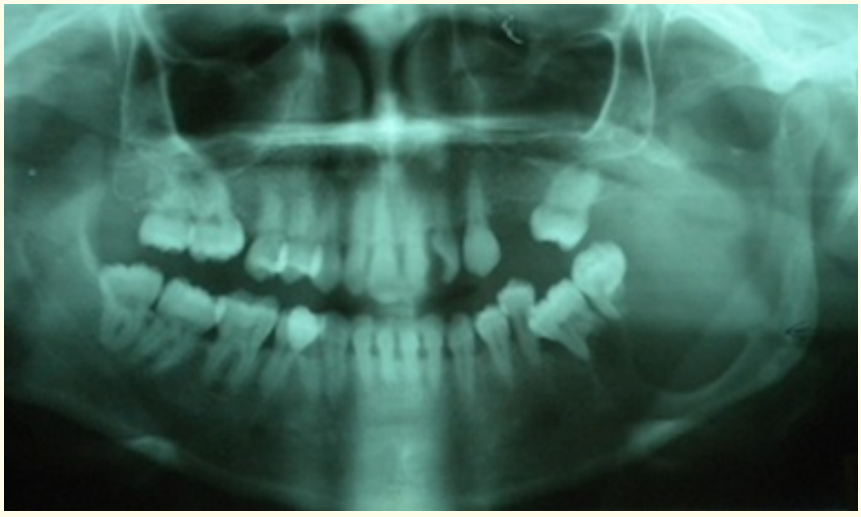


Figure 3: *Ameloblastoma unicystic with an impacted tooth.*

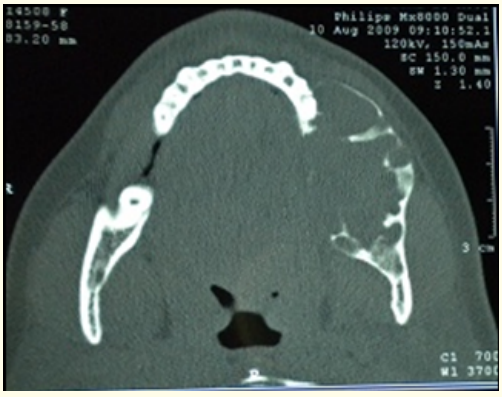


Figure 4: *Thinning / cortical breach on CT.*

No biopsy was performed. The treatment was a simple enucleation or enucleation associated a curettage in 9 cases, partial resection non-interrupter in 8 cases, Hémimandibulectomy with temporomandibular dislocation in 3 cases, surgical reconstruction was performed in 11 patients, 8 patients graft iliac bone, 2 cases by splint, and 1 case by a fasciocutaneous flap.

Histology confirmed the diagnosis of ameloblastoma in all cases, precise histological type was reported in 18 cases (cystic in 1 case, 7 cases in follicular and plexiform in 10 cases).

5 patients (25%) were lost to follow. In the other 15, 6 recurrences were noted after enucleation, after a mean of 52 months (14 months - 8 years). These patients had a radical treatment with an interrupter resection and reconstruction with iliac bone graft.

Discussion

Ameloblastoma is an odontogenic tumor that occupies an important place in because of the frequency of his character Benin but local invasion, and its evolutionary potential and recurrent.

The call signs of ameloblastoma are usually late and nonspecific. Often the discovery was made during a dental checkup or a panoramic radio. Sometimes it is the abnormal mobility of a tooth, an articulated the disorder or new onset of pain that attracts attention. At the time of discovery, bone destruction is often important with extreme thinning of cortical and risk of pathologic fracture. Note that large tumors of the mandible rarely cause anesthesia of the inferior alveolar nerve. Ameloblastomas maxillary represent between 10 and 20% of all these tumors and sit in 90% of cases in the posterior segment of the bone, invading neighboring structures and responsible deceptively symptomatology in maxillary sinus first, then the nasal passages and all adjacent structures, orbit, pterygomaxillary pit and even skull base [3,4]. We talked about the difficulty of diagnosis to the imaging plane, because it is no pathognomonic appearance of ameloblastoma, the scanner can highlight a single cystic formation, with thinned cortical but more often met, or a diffuse bone destruction with radiolucent images, compartmentalized and crossing with cortical damage soft tissue, in these cases, the extension to soft tissues will be better appreciated by MRI. In fact, the diagnosis will be worn with confidence that thanks to the histological examination of the surgical specimen, or by means of a biopsy of the lesions.

The treatment of ameloblastoma is surgical in most cases, and it is influenced by the evolving nature of this tumor [3,5]. habitual tendency effect known to relapse, especially in polycystic forms and infiltrating even after an apparently well conducted surgical treatment, and despite wide resection with healthy pollard in clinical pathology, ameloblastoma is likely to recur probably because micro existing bone tumor foci away from the primary tumor [5].

In our study 9 patients underwent conservative surgery as a first line. Wide excision with reconstruction were reserved for recurrences that were in the order of 67% after enucleation. This attitude highlights the controversies related to the treatment of multicystic ameloblastoma. Because of their rarity and the recurrence time (up to 45), only retrospective studies often lacking or decline based on limited series are available [6,7]. Therefore, some favor conservative treatment, citing the benign and slow-growing lesion. Others advocate a more aggressive stance based on the high destructive power of this lesion, its tendency to relapse and its outcome can be fatal [3,6,7].

Recent publications seem to look for radical treatment immediately. In a literature review, Carlson demonstrates the ineffectiveness of conservative treatment. He insists that to cure patients using a scientific approach, resection with healthy histological limits is necessary [6]. By comparing the different rates of recidivism, he found rates ranging between 36 and 100% after conservative treatment, and between 0 and 21% after radical treatment [6,8]. In our series, the recurrence rate of patients followed after enucleation is 67%. We have been led, as some authors, in practice extended resections during relapses. Other authors found themselves in therapeutic impasse, which could have been avoided by a radical treatment immediately [7].

The therapeutic decision should be guided by clinical, radiological, and histology. Indeed, the aggressiveness of the lesion depends on the following characteristics: compact or polycystic type appearance in “soap bubbles” fuzzy boundaries to radiology and kinds follicular and plexiform histology [9]. Find one of these signs indicates that this is a ameloblastoma high invasiveness [10]. Mandibular resection should be imposed as a first line when the tumor has a polygeodic configuration, excluding any possibility of complete enucleation given the multiplicity of lesions. It will not interrupter when the basilar edge interrupter is healthy and if achieved, reconstruction can be done immediately [11].

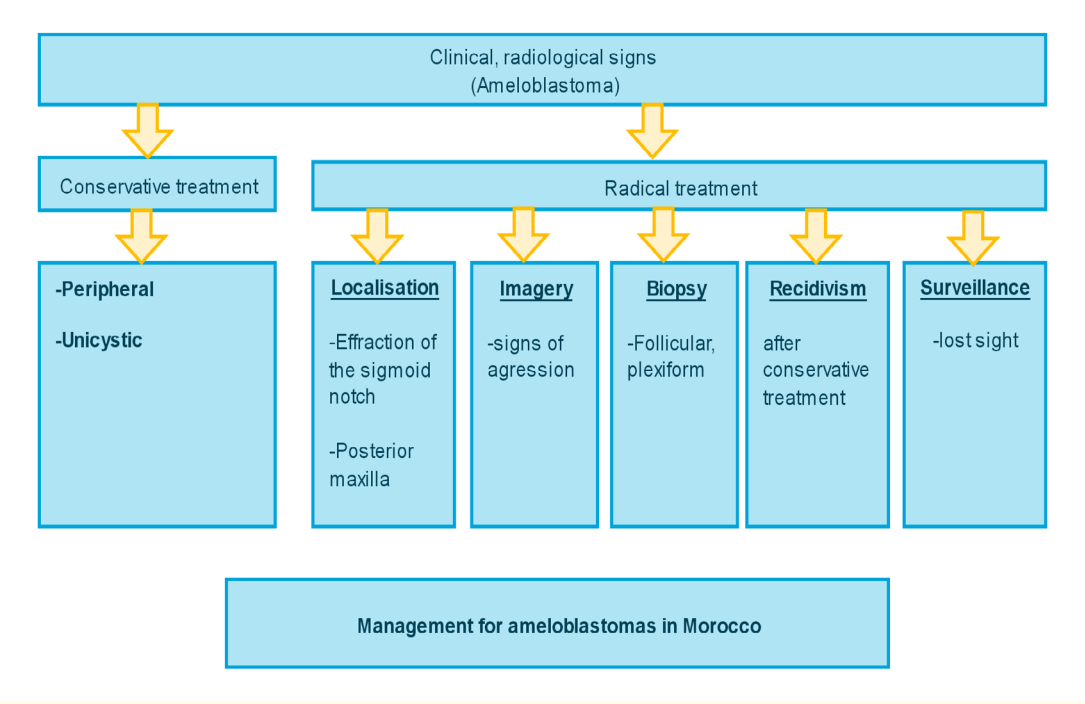
The inferior alveolar nerve must, meanwhile, be sacrificed if achieved and must be carried with the bloc resection [8,11]. Its preservation is possible if the channel is not reached and the améloblastoma does not present the above-mentioned criteria aggression [10]. Healthy bone margin of 1 to 1.5 cm is necessary to reduce the risk of recurrence, and a study of 82 ameloblastomas showed a microscopic infiltration of 2 to 8 mm beyond the radiological image [6]. A radiological examination of the specimen may be useful to know if the resection is sufficient or not. The dissection should be done in extra Periosteum if significant cortical thinning or burglary, best appreciated on scanner [13].

The location of the tumor also involved in the therapeutic choice. Indeed, a break of for example sigmoid notch constitutes a route of tumor seeding to the infratemporal fossa indicating radical treatment immediately [6,11]. The maxillary posterior locations should also

benefit from radical treatment given the proximity of the base of the skull and orbit and the fact that the bone, less compact, or subject to rapid extension of the lesions [6,11].

Histological type, diagnosed at biopsy, is important, indeed, follicular types and plexiform an important invasiveness explaining the high rate of recurrence when conservative treatment [10], which calls for treatment immediately for these radical forms.

Patient adherence monitoring is also an important element in the choice of therapy [11]. In our series, on a population often uneducated and undisciplined, 5 of 20 patients were lost to follow-conserving surgery first line.



Conclusion

Ameloblastomas are benign tumors to local evolution that escalate only very exceptionally, the severity of these formations is their latency and changes in low noise makes the discovery is often late. Treatment is exclusively surgical, justifying a wide excision to prevent recurrence requiring uncertain and mutilating remedial interventions. It takes as much as possible, achieve the outset surgery largely from outside the boundaries of the tumor to observe a sufficient safety margin [14]. This is only possible if the surgical team has repair processes adapted to the loss of bone and soft tissue. Once healing obtained, clinical monitoring and regular radiation should be continued for many years because of the risk of local recurrence can occur long after the initial treatment.

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