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Radiation Oncology

Ameloblastoma of the Jaw: Rare Benign Tumor: A Case Report

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Abstract **Case Report**

Ameloblastoma is a histologically benign epithelial odontogenic tumor, but its malignant behavior is due to its invasive and locally deforming properties, requiring early diagnosis and appropriate treatment. Its usual site is the mandible, with the maxillary localization accounting for 1% of cases. Radical surgery remains the standard treatment. We report the case of a locally advanced ameloblastoma with maxillary sinus localization that we treated with intensity-modulated conformal radiotherapy.

Keywords: Ameloblastoma, Maxilla, Recurrence, Radiotherapy, Surgery.

INTRODUCTION

Ameloblastoma is a rare benign odontogenic tumor, due to its locally invasive nature, requires early diagnosis to avoid mutilating treatment. It is characterized by a proliferation of odontogenic epithelium, usually follicular or plexiform, within a fibrous stroma.

Most ameloblastomas originate from the odontogenic epithelium: most often Malassez remnants, remnants of the dental lamina (Serres pearls), or more rarely from the basal layer of the oral epithelium or the epithelium of the wall of an odontogenic cyst.

Its usual site is the mandible, it represents 1% of maxillary tumors.

This tumor is called "benign with local malignancy" because of its significant potential for progression and its tendency to recur after treatment.

Radical surgery remains the standard treatment.

CASE REPORT

A 62-year-old patient with no particular pathological history who presented with a maxillary ameloblastoma revealed by the fortuitous discovery of an ulcerative-budding right maxillary lesion during a consultation with a dentist for a dental prosthesis.

The patient was referred to an ENT specialist, a biopsy was performed which was in favor of an ameloblastoma, then the patient consulted the maxillofacial surgery department, a CT scan of the facial mass was performed, then the patient was operated on for right hemimaxilectomy with reconstruction of the right orbital floor with anatomopathological study: 4.5 cm ameloblastoma, resection of the tumoral nasal mucosa, other healthy samples. She was then re-operated on for further excision with anatomopathological study: inflammatory reaction with a scar-like appearance without tumor residue, healthy resections, absence of malignancy.

The patient was kept under surveillance for 12 months after the appearance of a hard, painless right suborbital mass gradually increasing in volume.

A CT scan of the facial bones was performed, objectifying a lesional process centered on the anterior segment of the right zygomatic arch and the homolateral external canthus extending to the temporal process multiloculated roughly oval well delimited seat of calcifications enhanced heterogeneously and measuring 50x40x45 mm.

Topographically:

Above, it infiltrates the extraconical fat of the right orbit and comes into contact with the lacrimal gland, preserving the separating fatty margin without

affecting the eyeball. Further down, it extends to the infratemporal fossa.

- Posteriorly, it infiltrates the masseter muscle, losing the separating fatty margin.
- Anteriorly: it infiltrates the subcutaneous fatty space of the jugal region
- Right jugulocaritis adenomegaly, the largest measuring 11x14mm
- The submaxillary and parotid glands appear normal
- The deep facial spaces appear normal

Conclusion: Locally infiltrating right zygomato-orbital lesion suggesting a recurrence of ameloblastoma.

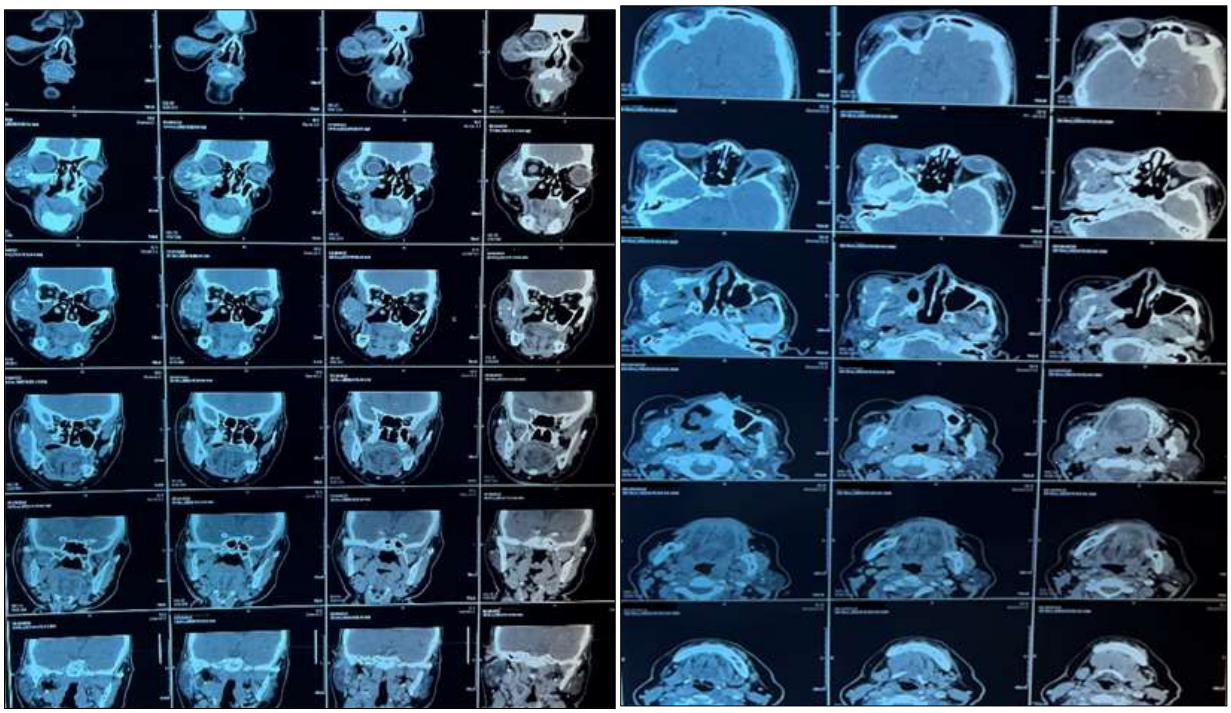

Figure 1: Facial CT

The patient received radiotherapy at a dose of 60 Gy in conventional fractionation with good tolerance.

DISCUSSION

The term ameloblastoma was suggested by Ivy Churchill in 1930 to replace the term "adamantinoma" proposed by Malassez in 1885.

Ameloblastoma is a benign odontogenic tumor with an aggressive and potentially recurrent nature. It represents 1% of maxillary tumors [1]. The median age of onset is 35 years, and both sexes are equally affected, with a predominance in Black people in some studies. The majority of ameloblastomas are polycystic and are more difficult to eradicate than the monocystic and peripheral varieties. The lower jaw is affected in 80% of cases [2]. The circumstances of discovery are dominated by facial deformities and dental loss. The tumor is painless in the majority of cases. The most characteristic radiological image is that of "soap bubbles", reflecting polygeodic bone destruction blowing out the bone cortex [3].

The risk of recurrence is around 50 to 72% of cases. It is major after conservative surgery. Radical treatment consists of a wide excision with healthy margins of 1.5 to 2 cm. Resulting in local control rates exceeding 90% [4]. Except that this optimal surgery is not always possible, especially since the diagnosis is made at late stages, particularly in maxillary forms.

On the other hand, radiotherapy has also found its place in the treatment of ameloblastomas. Reynolds published the first case of irradiated ameloblastoma and proposed radiotherapy for locally advanced tumors that were not operable or in cases of refusal of surgery [5]. Similarly, in 1984 Atkinson published a series of patients treated by radiotherapy with good progress [6]. Since then, other observations on the role of radiotherapy in the curative treatment of ameloblastoma have been published concerning cases of mandibular ameloblastoma that responded well to external radiotherapy of 60Gy [7].

CONCLUSION

Ameloblastoma is an invasive tumor that, despite its benign nature, is an example of a tumor of singular aggressiveness, characterized above all by its tendency to recur. It therefore requires a precise

diagnosis and appropriate management with long-term follow-up to detect any recurrence.

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