SAS Journal of Medicine
Abbreviated Key Title: SAS J Med
ISSN 2454-5112
Journal homepage: https://saspublishers.com

OPEN ACCESS

Radiation Oncology

Local Recurrence of a Mandibular Ameloblastoma: Report Case

Berkaoui Mohamed[1*], Barkiche Samir[1], Darfaoui Mouna[1], Elomrani Abdelhamid[1], Khouchani Mouna[1]

[1]Department of Radiation Oncology; Mohammed VI Hospital; Marrakech; Morocco

DOI: 10.36347/sasjm.2023.v09i11.027 | **Received:** 11.10.2023 | **Accepted:** 23.11.2023 | **Published:** 30.11.2023

***Corresponding author:** Berkaoui Mohamed
Department of Radiation Oncology; Mohammed VI Hospital; Marrakech; Morocco

Abstract | **Case Report**

Ameloblastoma is a benign odontogenic tumor with local malignancy due to its propensity to invade all tissues surrounding areas and its risk of recurrence after enucleation; Its preferred anatomical site is mandibular. We present a case of a patient who presents a mandibular ameloblastoma initially treated by surgery then 3 years later he presents a local recurrence confirmed histologically.

Keywords: Ameloblastoma; Recurrence; Surgery; Radiotherapy.

INTRODUCTION

Ameloblastoma is a benign odontogenic tumor, locally aggressive, with a very low rate of malignant transformation. It is nevertheless known to be very recurrent after treatment. It is the most common benign odontogenic tumor in developing countries [1]. Ameloblastoma mainly affects the mandible with predominance in the angular region and is often associated with the retention of the mandibular wisdom tooth.

CASE REPORT

This is a 30-year-old patient, a chronic smoker, who essentially benefited from a right hemi-mandibulectomy for mandibular ameloblastoma that had been evolving for several years. 3 years later, he presented to the department with a local recurrence confirmed histologically (Figure 3) and neglected by the patient. On clinical examination it was a large right cervico-jugal tumor measuring 18x12cm with skin break-in and spontaneous growth (Figure 1) without palpable lymphadenopathy. A head and neck CT scan showed a significant necrotic and ulcerated lesional process in the right laterocervical region, infiltrating the skin and subcutaneous fat, invading the hemitongue and budding into the pharyngo- laryngeal lumen (Figure 2). Chest CT was normal. The treatment consisted of external radiotherapy with high energy X- ray photons, at a total dose of 60 Gy at a rate of 2 Gy/session, 5 sessions/week in 6 weeks with good tolerance. The evolution was marked by a complete remission and the absence of recurrence after a post-therapeutic follow-up of 2 years.

Figure 1: Right cervico-jugal tumor measuring 18x12cm with skin break-in and spontaneous relapse

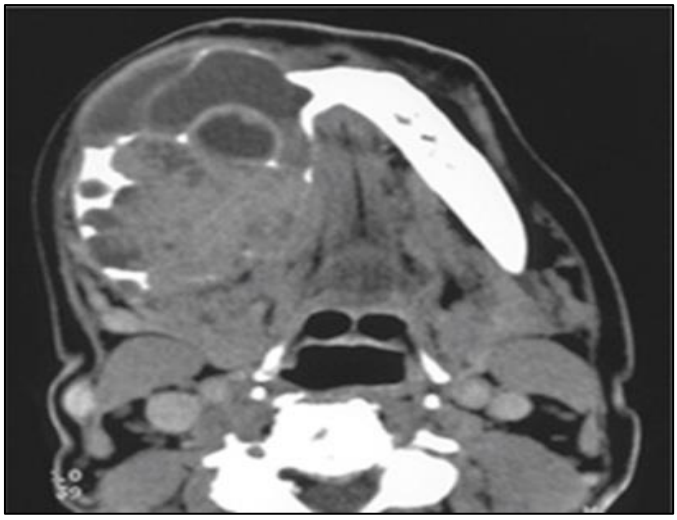

Figure 2: Axial section of the cervico-facial CT showing a large necrotic and ulcerated lesional process in the right laterocervical region

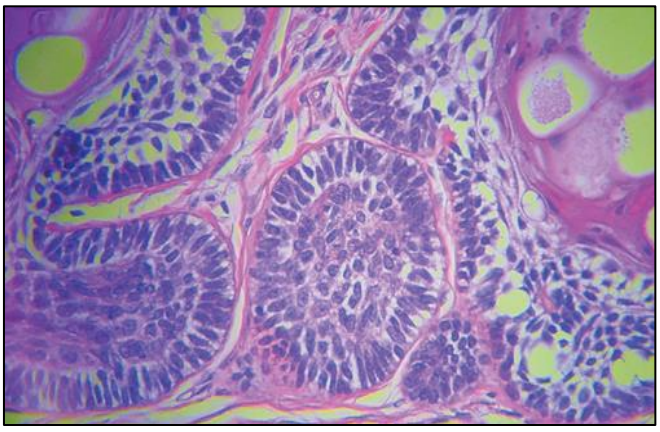

Figure 3: Ameloblastic follicle wallpapered by a cylindrical epithelium palisadic in periphery and starry in the centre encircled by a fibro-hyaline condensation (HES, X 400).

DISCUSSION

The term ameloblastoma was suggested by Ivy Churchill in 1930 to replace the term "adamantinoma" proposed by Malassez in 1885. It is a benign odontogenic tumor of an invasive nature justifying early diagnosis. The median age of onset is 35 years, both sexes are equally affected, with a predominance in the black race for certain studies. The majority of ameloblastomas are polycystic and are more difficult to eradicate than the monocystic and peripheral varieties [2]. The lower jaw is in 80% of cases. The tumor is generally not very symptomatic and painless. The circumstances of discovery are dominated by facial deformities or tooth loss. The characteristic radiological image is: "soap bubbles" reflecting poly-geodic bone destruction blowing out the bone cortex. Although surgery is the cornerstone of treatment, the extent of resection is controversial. Radical resections, including marginal and segmental mandibulectomy, result in local control rates exceeding 90%. In contrast, conservative procedures such as enucleation and curettage result in local control rates of approximately 80% and 50% for mono-cystic and multi-cystic ameloblastomas respectively [3].

Most authors consider ameloblastoma to be radioresistant whereas in 1982 Reynolds wrote an important article on the effect of irradiation on ameloblastoma in which he discussed the basic principles of radiotherapy and in conclusion. That radiotherapy has a place in locally advanced tumors or in cases of refusal of surgery [4]. A second important document is that of Atkinson in 1984, who published a series of 10 cases of ameloblastomas treated with radiotherapy, he concluded, on the basis of his experience and review of the literature that ameloblastomas are radiosensitive [5]. Since then, there are few cases published in the literature on the role of radiotherapy as a useful modality in the treatment of ameloblastomas [6, 7]. Rastogi published in 2006 a case of advanced ameloblastoma of the mandible which responded well to external radiotherapy at a dose of 60 Gy in 30 sessions of 2 Gy with Cobalt 60 via two lateral fields. This patient remained in good local control two years after the end of treatment [8]. Therefore, modern radiotherapy can play an important role in the treatment of these tumors, particularly in cases where complete surgical excision would be technically difficult or medically contraindicated for surgery. Radiotherapy

may also increase the likelihood of local control in the few patients with tumor or marginal margins.

CONCLUSION

Ameloblastoma is a benign, aggressive and recurrent odontogenic tumor that requires early diagnosis and adequate treatment. Radiotherapy plays an important role in the management of currently advanced and inoperable stages.

REFERENCES

1. Brierley, D. J. (2017). *Current concepts of odontogenic tumours- an update, Diagnostic Histopathology*.
2. Mendenhall, W. M., Werning, J. W., Fernandes, R., Malyapa, R. S., & Mendenhall, N. P. (2007). Améloblastome. *Suis J Clin Oncol*, 30(6), 645-648.
3. Koukourakis, G. V., Miliadou, A., & Sotiropoulou-Lontou, A. (2011). Ameloblastome, une tumeur odontogène bénigne rare : une revue tumorale intéressante ciblant le rôle de la radiothérapie. *Clin Traducteur Oncol*, 13(11), 793-797.
4. Reynolds, W. R., & Pacyniak, J. (1982). Ameloblastoma: radioresistant or radiosensitive. *Journal of the Missouri Dental Association*, *62*(6), 36-38.
5. Atkinson, C. H., Harwood, A. R., & Cummings, B. J. (1984). Ameloblastoma of the jaw. A reappraisal of the role of megavoltage irradiation. *Cancer*, *53*(4), 869-873.
6. Sheinkopf, D. E., & (1990). Friedman, J. M. Radiothérapie dans la prise en charge de l'améloblastome récurrent ; un suivi à long terme d'un cas. *État de New York Dent J*, 56(3), 36-37.
7. Anastassov, G. E., Rodriguez, E. D., Adamo, A. K., & Friedman, J. M. Rapport de cas : Améloblastome agressif traité par radiothérapie, *ablation chirurgicale et reconstruction*.
8. Rastogi, M., Srivastava, K., Bhatt, M. L. B., Srivastava, M., Sudhir, S., & Srivastava, A. N. (2006). Améloblastome géant de la mâchoire traité avec succès par radiothérapie. *Extra d'oncologie orale*, *42*(1), 22-25.