"AMELOBLASTOMA A RARE OCCURRENCE - CASE REPORT".

DR. BURRAMUKKU BHATNAKARAN[(1*)],DR.ANKITHA PARIKH[(2)],DR.MAITRIK MEHTA [(3)], DR.JAYESH SINGH[(4)],DR.DEEPAK MISHRA[(5).]

[1*,5]SENIOR RESIDENT,[2.]H.O.D & PROFESSOR,[3.]PROFESSSOR,
[4]ASSOCIATE PROFESSOR.

**[1*,2,3,4,5]DEPARTMENT OF RADIATION ONCOLOGY,
B.J. MEDICAL COLLEGE,AHMEDABAD,GUJARAT,INDIA.**

Corresponding Author.

DR.BURRAMUKKU BHATNAKARAN , MBBS,MD(RADIATION ONCOLOGY,

SENIOR RESIDENT,bbhatnakaran@gmail.com.

ABSTRACT

Ameloblastoma is classified as a benign odontogenic tumor, though it behaves in a locally aggressive manner. It accounts for roughly 10% of tumors affecting the jaws. Clinically, it usually appears as a slow-growing, non-tender swelling in either the mandible or maxilla. According to the 2017 WHO classification, there are four recognized subtypes: conventional, unicystic, extraosseous/peripheral, and metastasizing ameloblastoma. A definitive diagnosis requires correlation of radiographic findings with histopathological examination. Because of the tumor's tendency to recur, wide surgical excision with clear margins is considered the primary treatment approach. This report presents a case of maxillary ameloblastoma, covering the clinical features, imaging findings, surgical approach, histopathological results, use of adjuvant radiotherapy, and the patient's follow-up course.

IndexTerms* – AMELOBLASTOMA, METASTASIS, *MAXILLECTOMY, RADIOTHERAPY.

INTRODUCTION

Ameloblastoma is an uncommon epithelial odontogenic tumor that most often affects adults aged 30 to 60. It shows a mild preference for males and is frequently located in the molar-ramus area of the mandible. Although it is benign on histology, this tumor can behave aggressively at a local level, carries a notable risk of recurrence, and in rare instances may metastasize. The 2017 WHO classification recognizes four main types, with histologic patterns further described as luminal, intraluminal, and intramural. The mainstay of management is en bloc resection, sometimes combined with reconstructive surgery. Postoperative radiotherapy may be considered when surgical margins are narrow or positive, in recurrent cases, or when the tumor's location limits complete removal.

CASE PRESENTATION

A 55-year-old male presented with a progressively enlarging, painless swelling over the right upper alveolus. Clinical examination revealed a firm, non-tender mass in the maxillary region.

**IMAGING FINDINGS*

Contrast-enhanced CT and MRI revealed a well-circumscribed, expansile mass measuring 36 × 43 × 43 mm in the right maxillary sinus. The lesion had eroded the medial and posterolateral sinus walls, extended to the retromolar trigone, was in contact with the medial pterygoid muscle, and showed slight extension into the right nasal cavity.

**HISTOPATHOLOGY*

An incisional biopsy confirmed ameloblastoma. Microscopy showed the classic features: palisading columnar cells with reversed nuclear polarity surrounding areas resembling stellate reticulum.

**SURGICAL MANAGEMENT*

On 08-Aug-2024, the patient had a subtotal maxillectomy. Intraoperatively, a 4 × 3 × 3 cm encapsulated, firm, solid tumor was found within the maxillary sinus and hard palate. Final histology confirmed ameloblastoma with tumor involvement at:

- The posterior resection margin of the maxilla

- The pterygoid process

- Soft tissue overlying the infraorbital rim

All other margins were free of disease.

Postoperative Course and Adjuvant Radiotherapy

Post-op imaging showed no residual tumor. Because of extensive bony invasion and the tumor's proximity to critical structures, adjuvant radiotherapy was given.

**RADIOTHERAPY PROTOCOL*

- Modality: Helical IMRT

- Total dose: 60 Gy in 30 fractions

- Treatment dates: 9 Oct – 20 Nov 2024

Dosimetric Data

- CTV: Prescribed 60 Gy; 58.8 Gy delivered to 98% of the 276.98 cc volume

- PTV: Prescribed 60 Gy; 57 Gy delivered to 95% of the 416.41 cc volume.

Toxicity

- Grade 2 mucositis: Controlled with systemic analgesics and topical agents

- Grade 1 dermatitis: Mild, self-limited erythema

Supportive care included oral hygiene instructions, nutritional support, and symptomatic management of mucositis.

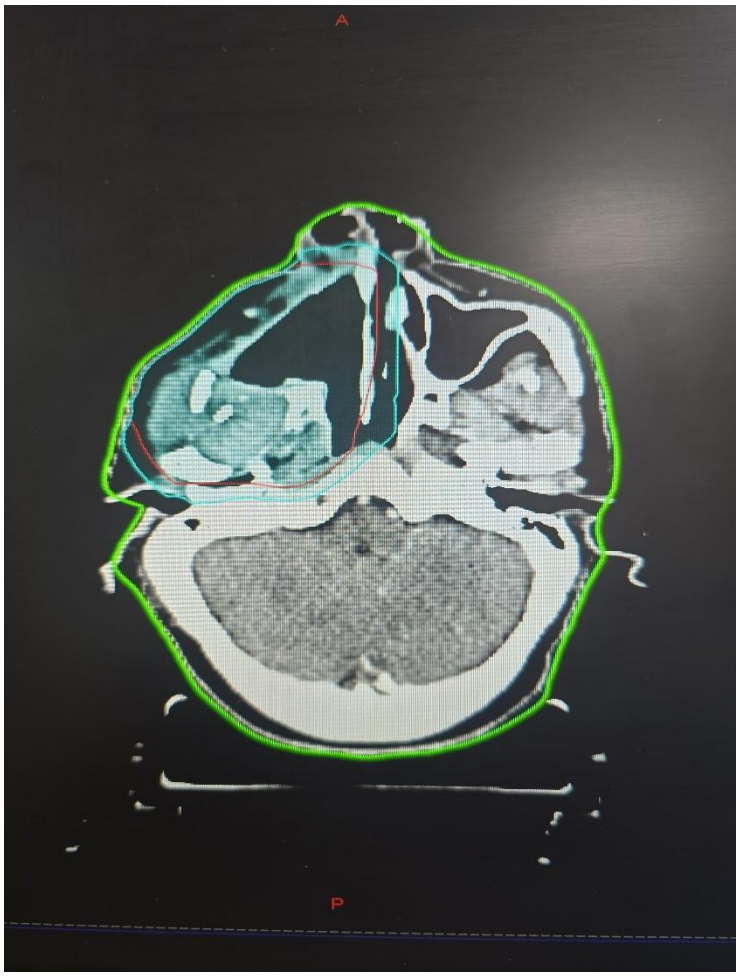

IMAGE .1,AMELOBLASTOMA-CTV,PTV.

**PROGNOSIS AND FOLLOW-UP*

Even after adequate surgery, maxillary ameloblastomas recur in 15–25% of cases due to the region's complex anatomy. The patient was enrolled in a follow-up protocol with clinical exams and imaging every 3 months for year 1, then every 6 months. No recurrence has been detected so far.

**CONCLUSION*

This case illustrates the challenges of managing maxillary ameloblastoma. Given the invasive nature and high recurrence risk, wide surgical excision is the standard approach. Adjuvant radiotherapy is valuable when margins are close or positive and in extensive disease. Long-term follow-up is necessary to detect recurrence or malignant transformation early.

AKNOWLEDGMENT NOTE : NO CONFLICT OF INTEREST .

THE AUTROS REPORT : NO CONFLICT OF INTEREST.

REFERENCES.

1. El-Naggar AK, Chan JKC, Grandis JR, Takata T, Slootweg PJ. WHO Classification of Head and Neck Tumours, 4th ed. Lyon: IARC; 2017.

2. Reichart PA, Philipsen HP. Odontogenic Tumors and Allied Lesions. London: Quintessence Publishing; 2004.

3. Carlson ER, Marx RE. The ameloblastoma: primary surgical management. J Oral Maxillofac Surg. 2006;64(3):484–94.

4. Small IA, Waldron CA. Ameloblastoma of the jaws. A clinical-radiographic study. Oral Surg Oral Med Oral Pathol. 1955;8(3):281–97.

5. Gardner DG. Ameloblastoma: a critique of the literature and a presentation of 88 new cases. Cancer.1983:34(5):1298-303.

6. Philipsen HP, Reichart PA. Unicystic ameloblastoma. A review of 193 cases from the literature. Oral Oncol. 1998;34(5):317–25.

7. Rizzitelli A, Faisal M, Di Carlo R, et al. The role of radiotherapy in the treatment of ameloblastoma: a review. Oral Oncol. 2019;88:124–30.

8. Chrcanovic BR, Gomez RS. Ameloblastoma: a clinical and histopathological analysis of 1366 cases. Int J Oral Maxillofac Surg. 2017;46(5):605–12.

9. Trotti A, Bellm LA, Epstein JB, et al. Mucositis incidence, severity and associated outcomes in patients with head and neck cancer receiving radiotherapy with or without chemotherapy: a systematic literature review. Radiother Oncol. 2003;66(3):253–62.

10. Linsen SSM, Reich RH, Frenken JW, de Baat C. Adverse effects of radiation therapy on oral health. Ned Tijdschr Tandheelkd. 2011;118(10):492–7.