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Case Series

Dentistry Section

Clinical and Pathological Variants of Ameloblastoma of the Mandible: A Series of 5 Cases

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ABSTRACT

Odontogenic in origin, ameloblastoma is a benign tumour, characterised by its locally aggressive behaviour and high tendency for recurrence, which necessitates early recognition and meticulous management. The tumour is primarily categorised into three variants, with conventional ameloblastoma being the most common, followed by less frequently encountered forms such as unicystic and peripheral ameloblastomas and the rare entity, adenoid ameloblastoma. These different subtypes present distinct clinical, radiographic and histopathological characteristics, which can pose challenges in diagnosis and management. The present case series (3 males, 2 females) documents multiple variants of ameloblastoma, including the rare entity adenoid ameloblastoma, which was treated with no signs of recurrence on periodic follow-up. The present case series thereby illustrates the diversity of presentations, as each variant exhibits different biological behaviour, surgical considerations and recurrence potential. The present series further emphasises the importance of integrating clinical and radiological findings with histopathological confirmation to establish an accurate diagnosis. The range of treatment options outlined in the literature spans from simple bone curettage to segmental resection with staged reconstruction, thus balancing the need to minimise surgical morbidity, while ensuring a low recurrence rate. The present case series reinforces the significance of comprehensive evaluation and highlights the need for curating individualised treatment strategies to optimise patient outcomes since both conservative and radical surgical approaches have variant-specific implications. Long-term follow-up remains indispensable to monitor for recurrence, which is a persistent concern regardless of the surgical modality.

Keywords: Adenoid ameloblastoma, Conventional ameloblastoma, Enucleation, Resection, Unicystic

INTRODUCTION

Ameloblastoma, a benign odontogenic tumour emanates from the remnants of the dental lamina, enamel organ of the developing tooth, epithelial lining of odontogenic cyst or basal cells of the oral mucosa. Ameloblastoma was initially described by Cusack (1827) and the term was later introduced by Ivey and Churchill (1930) [1]. Ameloblastoma was divided into solid/multicystic, desmoplastic, unicystic, extraosseous/peripheral forms in the 2005 World Health Organisation (WHO) classification. However, 2017 classification narrowed into three main types, namely, ameloblastoma, Unicystic Ameloblastoma (UA) and extraosseous/peripheral types, each with distinct therapeutic and prognostic implications. Since, the majority of conventional ameloblastoma exhibit cystic degeneration without significant biologic variations, the term, solid/multicystic was removed and the desmoplastic type was reclassified under the histopathologic subtype [2]. Adenoid ameloblastoma was included as a novel entity in the WHO classification of head and neck tumours, 5th edition (2022), characterised by its biologically aggressive behaviour, high recurrence rate and absence of BRAF V600E mutations [3]. Among odontogenic tumours, ameloblastoma is considered to be the most common, comprising of 10-12% of cases, when odontomas, typically considered as hamartomas or developmental anomalies, are excluded [4]. The clinico-pathologic features are of a benign lesion exhibiting slow growth, but locally invasive leading to expansion as well as perforation of the buccal and lingual cortical plates and infiltration of surrounding soft tissues. The clinical behaviour and the high rate of recurrence are key factors influencing the management of the lesion [5]. The range of treatment options outlined in the literature spans from simple bone curettage to segmental resection with staged reconstruction, balancing the need to minimise surgical morbidity, while ensuring a low recurrence rate [1,6].

The present case series documents multiple variants of ameloblastoma, including the rare entity adenoid ameloblastoma.

Case 1

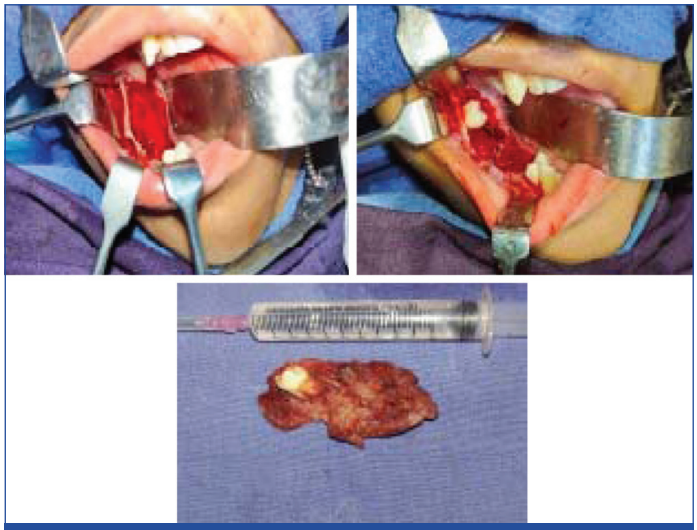
A 15-year-old male reported with complaints of swelling and mild occasional pain on the right lower one third of the face for two weeks. He had no pertinent medical history and all haematological investigations were in the normal range. He had a history of associated toothache for two weeks. A mild diffuse swelling was present on the right lower one-third of the face, which on palpation, was firm, non compressible and tender. Skin over the swelling was apparently normal and no local rise in temperature was felt. Ipsilateral level Ib lymph node was enlarged, firm, mobile and tender. Intraorally, a swelling was observed on the right posterior mandible lingually, which extends from the mesial aspect of 46 to the retromolar trigone and inferiorly 1 cm above the floor of the mouth, firm in consistency and tender on palpation. Mucosa over the swelling was apparently normal. No visible discharge/bleeding. Buccal and lingual cortical expansion was noted. Lingually placed 45 and lingually tilted 47 with grade I mobility were present [Table/Fig-1a]. Provisional diagnosis was ameloblastoma and differential diagnosis included dentigerous cyst and odontogenic keratocyst.

Orthopantomogram (OPG) showed a well-defined radiolucent lesion, which extends from mesial aspect of 46 to ascending ramus, pushing the erupting third molar posteriorly and extends superiorly from the alveolar crest to beyond the lower border of the mandible. Knife-edge root resorption was noted in 46 and 47 [Table/Fig-1b]. Cone Beam Computed Tomography (CBCT) revealed uniformly hypodense areas with well-defined borders in the right posterior body-ramus region, which extends inferiorly to cause thinning of the lower border of mandible and pushing the inferior alveolar canal inferiorly and buccally and the erupting third molar posteriorly into the ramus. Bicortical expansion and few areas of erosion were noted [Table/Fig-1c].

[Table/Fig-1a]: Clinical photograph showing intraoral swelling extending from 46 to retromolar trigone with bicortical expansion.

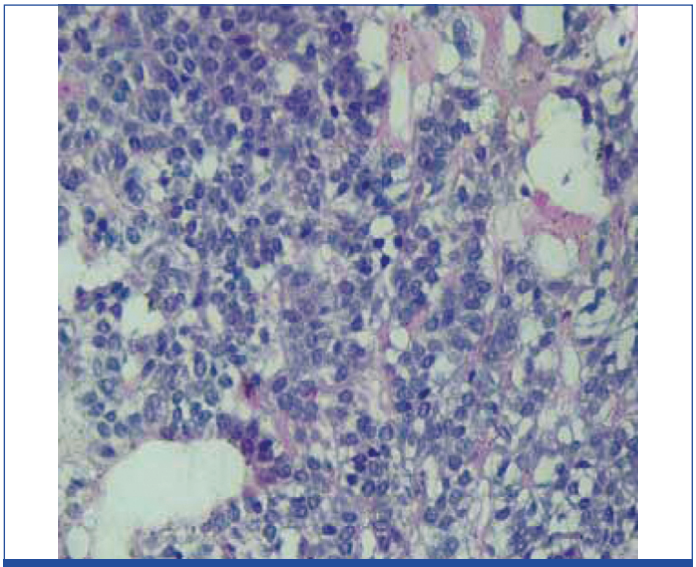
[Table/Fig-1b]: Panoramic radiograph demonstrating a well-defined unilocular radiolucent lesion in the right body-ramus of the mandible pushing erupting third molar into the ascending ramus and extending inferiorly beyond the lower border.

[Table/Fig-1c]: CBCT: Axial section showing an expansile osteolytic lesion in the right body-ramus region with thinning and erosion of the buccal and lingual cortical plates; sagittal section delineating an oval uniformly hypodense lesion with smooth and well-defined borders, extending inferiorly, causing thinning of the lower border of the mandible along with root resorption in 46 and 47.



[Table/Fig-1d]: Intraoperative images demonstrating tumour, erupting teeth and bony defect following enucleation; surgical specimen.

An initial radical surgery, though advocated can adversely impact both physical and psychological development by causing jaw deformity and dysfunction. Therefore, considering the young age of the patient, tumour size, site, craniofacial development and initial presentation, conservative approach was chosen. Enucleation along with extraction of erupting third molar and resorbed teeth, in conjunction with adjuvant therapies - peripheral ostectomy and chemical cauterisation with modified Carnoy's solution followed by closed packing with iodoform was done [Table/Fig-1d]. Histopathological examination {Haematoxylin and Eosin (H&E)} was suggestive of 'Ameloblastoma- Conventional Type' [Table/Fig-1e]. On periodic evaluation, there were no signs of recurrence and adequate bone fill was appreciated in one year postoperative OPG [Table/Fig-1f].



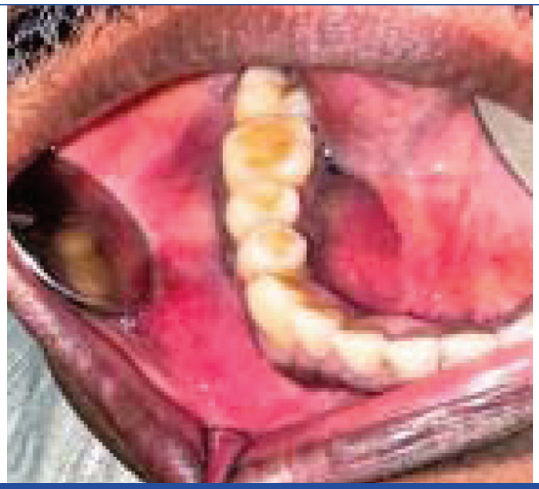
[Table/Fig-1e]: Photomicrograph showing odontogenic epithelium with peripheral columnar cells with hyperchromatic nuclei and exhibiting reversal of polarity (H&E, X40).

[Table/Fig-1f]: Follow-up OPG showing evidence of bone regeneration at the surgical site.

Case 2

A 53-year-old male reported with a complaint of swelling and mild occasional pain in the right lower one third of the face for six months with history of lower lip paresthesia on right-side. He had a history of associated toothache (44,45) for which access opening was done three months back. On examination, extraorally, a mild diffuse swelling was present on the right lower one-third of the face, which extended to the submandibular region; firm in consistency and tender on palpation. Skin over the swelling was apparently normal and there was no local rise in temperature. Intraorally, swelling was noted, which extended from the mesial aspect of 41 to the distal aspect of 46 both buccally and lingually with obliteration of the mucobuccal fold, erythematous, firm in consistency and tender on palpation. No visible discharge/bleeding/ulceration noted [Table/Fig-2a]. Provisional diagnosis was ameloblastoma and differential diagnosis included radicular cyst and odontogenic keratocyst.

The OPG demonstrated a well-defined unilocular radiolucency, which extends mesiodistally from mesial aspect of 41 to distal

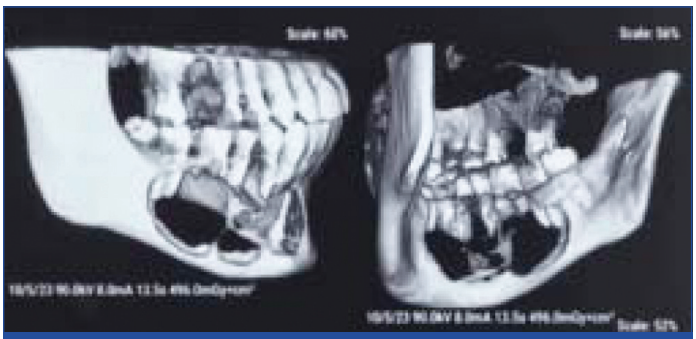


[Table/Fig-2a]: Clinical photograph showing intraoral swelling extending from 41 to 46 with obliteration of mucobuccal fold and erythematous areas.

aspect of 46 and superoinferiorly from below the alveolar crest to 1 cm above the inferior border of the mandible, with associated root resorption [Table/Fig-2b].

[Table/Fig-2b]: Panoramic radiograph demonstrating a well-defined unilocular radiolucent lesion in the right body of the mandible extending anteriorly upto the midline.

The CBCT revealed uniformly hypodense areas with well-defined and scalloped borders, which appears to push the inferior alveolar canal inferiorly. Bicortical expansion and erosion noted. Root resorption noted in 43, 44, 45 and 46 [Table/Fig-2c].

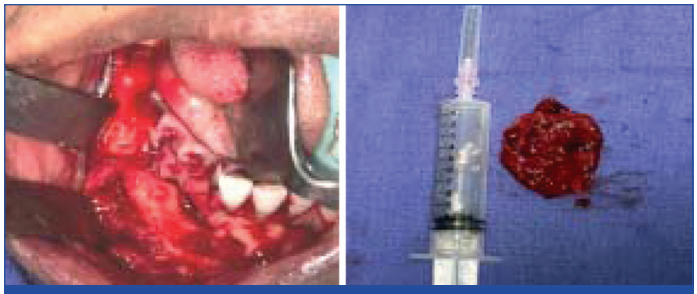


[Table/Fig-2c]: Three dimensional CBCT showing expansile lytic lesion with scalloped borders; thinning and erosion of buccal and lingual cortical plate.

Initial radical surgery is associated with significant morbidity, including the risk of attendant facial deformity. Thus taking into account the nature of the lesion, which is unilocular with well-demarcated borders with no clinical evidence of soft tissue invasion, primary occurrence and an accessible location, which facilitates removal of the tumour as a whole, conservative approach was chosen. Hence, extraction of resorbed teeth and enucleation with peripheral ostectomy and chemical cauterisation with modified Carnoy's solution was done along with primary closure [Table/Fig-2d].

Histopathological examination was suggestive of 'UA with mural and intraluminal proliferation' [Table/Fig-2e].

Follow-up evaluation revealed satisfactory healing and OPG taken 18 months postoperatively demonstrated bone regeneration [Table/Fig-2f].



[Table/Fig-2d]: Intraoperative photograph showing bony defect following enucleation and surgical specimen.

[Table/Fig-2e]: Photomicrograph showing odontogenic epithelium; basal cell layer shows columnar cells with hyperchromatic nuclei and exhibit reversal of polarity. Proliferation of tumour cells is seen into the cystic lumen and to the supporting capsule (H&E, X40).

[Table/Fig-2f]: Postoperative OPG showing good bone healing with surgical site demonstrating evidence of bone regeneration.

Case 3

A 38-year-old female reported with a complaint of swelling in the right lower back teeth region for four months. No relevant medical and dental history. On examination, no extraoral swelling was evident. Intraorally, a well-defined swelling was observed in the alveolar mucosa, which extends from mesial aspect of 43 to mesial aspect of 46 and superoinferiorly from below the attached gingiva to buccal vestibule. The mucosa over the swelling was apparently normal. The swelling was hard in consistency and non tender on palpation with bicortical expansion. No visible discharge/bleeding noted [Table/Fig-3a].

Provisional diagnosis was ameloblastoma and differential diagnosis included odontogenic keratocyst and periapical cyst.

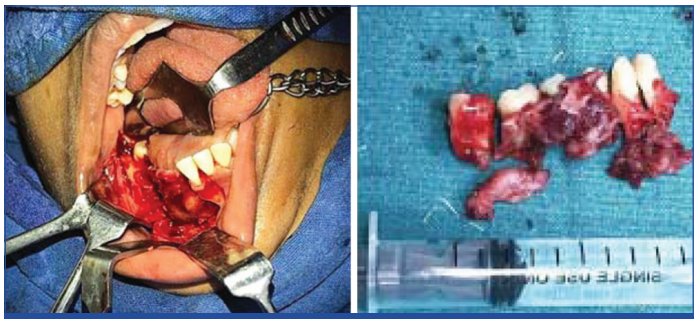
The OPG revealed a multilocular radiolucent lesion, which extends mesiodistally from mesial aspect of 41 to distal aspect of 47 and supero-inferiorly from alveolar crest to 1 cm above inferior border of the mandible. Root resorption noted in 45, 46 and mesial root of 47 [Table/Fig-3b].

Despite the histological variant, case study by Haq J et al., have documented extended durations of remission and potential cure following enucleation and application of Carnoy's solution [6]. An initial conservative approach was chosen, taking into account, the

[Table/Fig-3a]: Clinical intraoral photograph demonstrating a swelling on the right body of the mandible.

[Table/Fig-3b]: Panoramic radiograph demonstrating multilocular radiolucent lesion on right body of the mandible with scalloped borders extending anteriorly upto the midline along with root resorption in 45, 46, 47.

patient's age, size, site and primary occurrence of tumour. Hence, enucleation along with extraction of all teeth in contact with the lesion; peripheral ostectomy and chemical cauterisation followed by open packing with iodoform was done, which prevents the entry of food and other debris and allow for healing by secondary intention [Table/Fig-3c].



[Table/Fig-3c]: Intraoperative images demonstrating intraoral exposure of the tumour and bone defect; Extracted teeth which showed root resorption and those in direct contact with the lesion (Images from left to right).

Under local anaesthesia, packing was changed twice weekly with normal saline irrigation until surgical defect granulated and healed by secondary intention in eight weeks.

Histopathological examination was suggestive of 'Acanthomatous Ameloblastoma' [Table/Fig-3d].

Follow-up radiograph taken 19 months postoperatively showed substantial bone regeneration and no signs of recurrence [Table/Fig 3e].

Case 4

A 33-year old female presented with the complaint of mild occasional pain and sensitivity on the right lower back teeth region for one month. No extraoral swelling was observed. Intraorally, there was a mild swelling on the buccal aspect of 44, 45 and 46, which was

[Table/Fig-3d]: Photomicrograph shows tumour cells proliferating as follicles. Peripheral cells show hyperchromatic nuclei with reversal of polarity and palisaded arrangement. Centre of follicle shows stellate reticulum like cells with squamous metaplasia and attempted keratin pearl formation (H&E, X40).

[Table/Fig-3e]: Postoperative OPG showing progressive bone regeneration with no signs of recurrence.

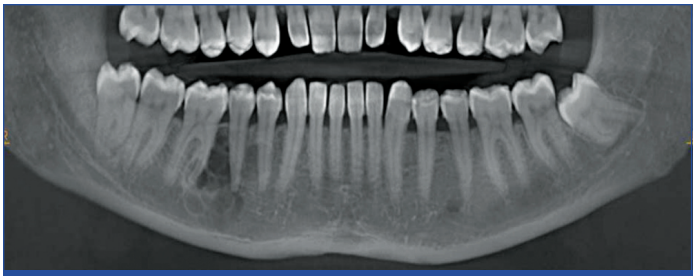
hard in consistency and non tender on palpation. Overlying mucosa appeared apparently normal. Bicortical expansion noted. No visible discharge noted [Table/Fig-4a].

[Table/Fig-4a]: Clinical intraoral photograph demonstrating a swelling on the right body of the mandible.

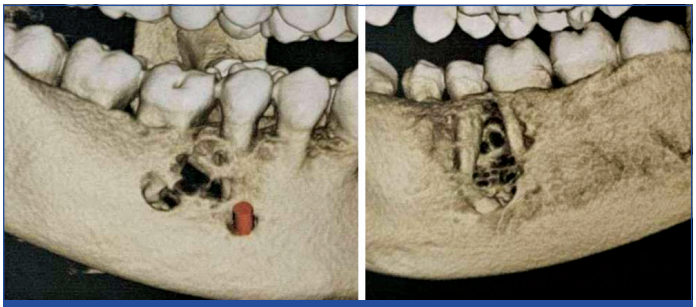
Provisional diagnosis of ameloblastoma was made and differential diagnosis included periapical cyst, osteomyelitis and odontogenic keratocyst.

Radiographs revealed a multilocular radiolucency, which extends from the mesial aspect of 44 to mesial aspect of 46 involving its mesial root with irregular borders, bicortical expansion and breach at multiple areas [Table/Fig-4b,c].

The aggressive nature, infiltrative growth pattern and potential for cortical bone destruction and high risk of recurrence, necessitates radical mode of management and hence en bloc resection was performed from 43 to 46 with a margin of 1.5 cm. Teeth in the line of osteotomy (43,46) were extracted and bone cuts made anterior,



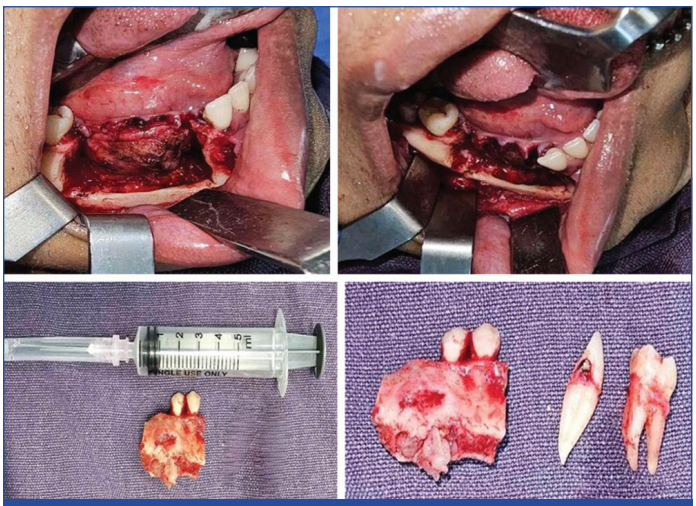
[Table/Fig-4b]: Panoramic radiograph demonstrating multilocular radiolucent lesion with irregular borders in the right body of the mandible.



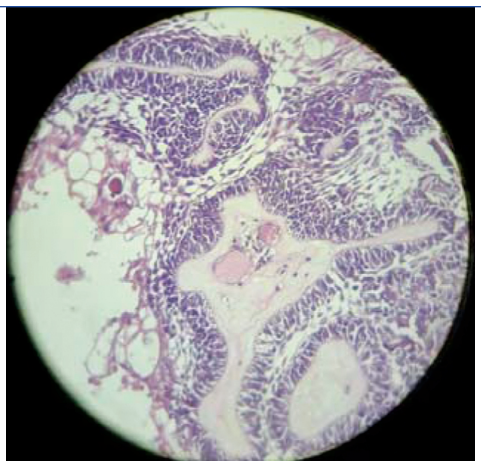
[Table/Fig-4c]: Three dimensional CBCT demonstrating an osteolytic lesion in the right body of the mandible with multiple perforations in the buccal and lingual cortical plate.

posterior and inferior to the tumour and the en bloc specimen sent for histopathological examination [Table/Fig-4d].

Histopathological examination was confirmatory of 'Adenoid Ameloblastoma' [Table/Fig-4e].



[Table/Fig-4d]: Intraoperative images demonstrating en bloc resection, preserving the lower border of the mandible; surgical defect and surgical specimen.



[Table/Fig-4e]: Photomicrograph showing tumour cells proliferating as interconnecting strands and follicles with columnar peripheral cells with hyperchromatic nuclei showing reversal of polarity. Focal areas show duct like spaces lined by flat to cuboidal cells and whorled epithelial condensation in a collagenous connective tissue (H&E, X40).

Follow-up evaluation revealed healing by secondary intention and seven months postoperative radiograph demonstrated surgical defect consistent with en bloc resection [Table/Fig-4f].

[Table/Fig-4f]: Postoperative radiograph showing surgical defect involving the right body of the mandible consistent with en bloc resection.

Case 5

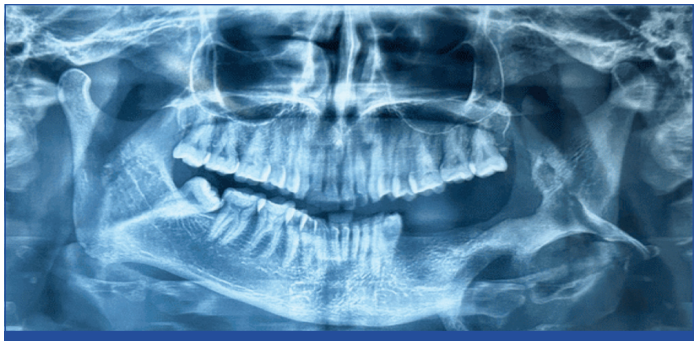
A 38-year-old male reported with complaints of swelling and mild occasional pain in the left lower one third of the face for eight months. Patient had a history of extraction of left posterior teeth due to mobility from a private clinic two years back. On extraoral examination, a diffuse swelling was observed in the left lower one-third of the face, which extended to the submandibular region. On palpation, the swelling was firm, non compressible and tender. Skin over the swelling was apparently normal with no local rise in temperature. Ipsilateral Level Ib lymph node was palpable - firm, mobile and tender. On intraoral examination, there was marked bicortical expansion along the edentulous left body of the mandible. Mucosa overlying the swelling appeared erythematous. No visible discharge was present [Table/Fig-5a]. Aspiration yielded a brown coloured fluid. Provisional diagnosis was ameloblastoma. Differential diagnosis included odontogenic keratocyst and Pindborg tumour.

[Table/Fig-5a]: Clinical intraoral photograph showing buccal and lingual cortical expansion in the left body-ramus region.

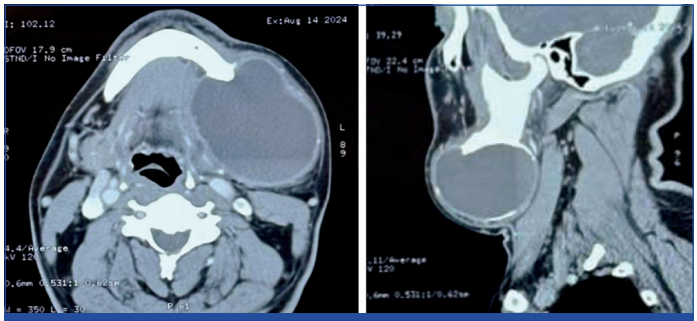
The OPG showed a marked radiolucency involving left body, angle and ramus, which extends beyond the inferior border of the mandible [Table/Fig-5b].

The CT revealed well defined cystic area involving left body, angle and ramus of mandible with thinning and erosion of both buccal and lingual cortical plates. Posteriorly, lesion abuts left medial pterygoid and masseter, inferiorly reaching upto left submandibular space and closely abuts left submandibular gland. Lesion is also noted to superiorly displace mylohyoid muscle [Table/Fig-5c].

Owing to the extent of the lesion and aggressive behaviour of conventional ameloblastoma, radical mode of treatment was



[Table/Fig-5b]: Panoramic radiograph demonstrating a radiolucent lesion in the left body-ramus extending inferiorly beyond the lower border of the mandible.



[Table/Fig-5c]: Axial and sagittal CT sections demonstrating an expansile hypodense area involving the left body, angle and ascending ramus of the mandible with thinning and erosion in both the buccal and lingual cortical plates, measuring 6.7x5.3x5.8 cm.

chosen. Segmental resection without disarticulation and primary reconstruction using reconstruction plate was done [Table/Fig-5d]. Considering the risk of local recurrence, secondary reconstruction with free fibula flap was delayed.

[Table/Fig-5d]: Intraoperative images showing Hayter's modification of McGregor's lip split incision extending inferiorly to join the extended submandibular incision; surgical exposure of tumour; segmental resection without disarticulation and primary reconstruction with reconstruction plate; resected specimen (Images from left to right).

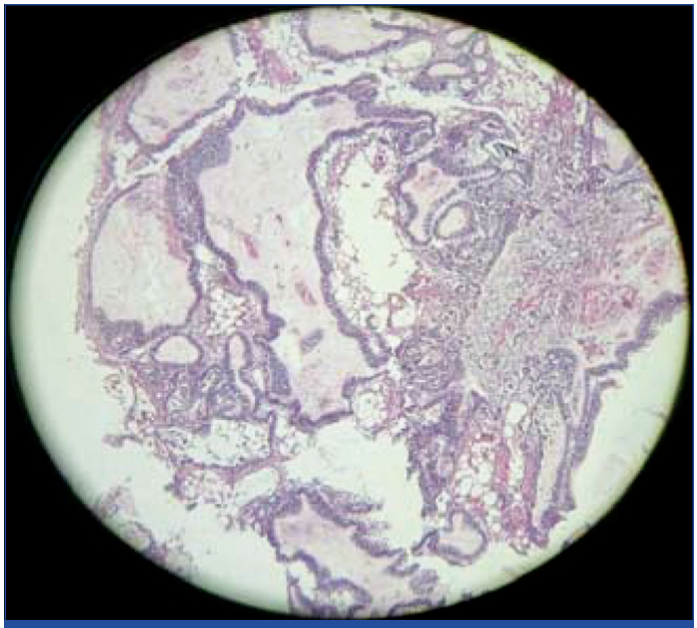
Histopathological examination was confirmatory of 'Plexiform Ameloblastoma' [Table/Fig-5e].

Follow-up radiograph taken seven months postoperatively demonstrated stable reconstruction plate with condyle well-maintained in the glenoid fossa [Table/Fig-5f].

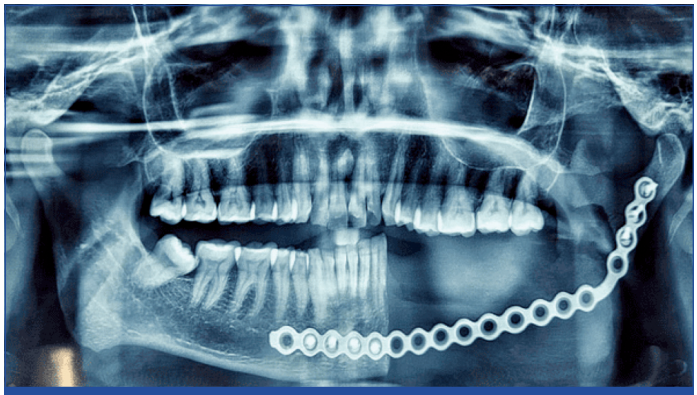
All of the above cases are summarised in [Table/Fig-6].

DISCUSSION

Ameloblastoma is a benign, locally invasive, polymorphic neoplasm which consists of proliferating odontogenic epithelium lying in a



[Table/Fig-5e]: Tumour cells proliferating as interconnected strands and cords with peripheral cells columnar with hyperchromatic nuclei and reversal of polarity. Stellate reticulum like cells and cystic degeneration are also noted in a moderately collagenous stroma (H&E, X40).



[Table/Fig-5f]: Follow-up OPG showing reconstruction plate fixation.

S. No.	Age/ Gender	Location in mandible	Radiology	Histology	Treatment
1.	15/M	Right body and ramus	Unilocular radiolucency	Conventional ameloblastoma	Enucleation along with extraction of involved teeth and adjuvant therapies
2.	53/M	Extending from midline to right body of the mandible	Unilocular radiolucency	Unicystic Ameloblastoma (UA)	Enucleation along with extraction of resorbed teeth and adjuvant therapies
3.	38/F	Right body	Multilocular radiolucency	Acanthomatous ameloblastoma	Enucleation along with extraction of teeth in contact with the lesion and adjuvant therapies
4.	33/F	Right body	Multilocular radiolucency	Adenoid ameloblastoma	En bloc resection
5.	38/M	Left body-ramus	Radiolucency extending beyond the limits of the lower border of the mandible	Plexiform ameloblastoma	Segmental resection without disarticulation and primary reconstruction with reconstruction plate

[Table/Fig-6]: Summary of the cases.

fibrous stroma (WHO) [5]. It is more prevalent in third and fourth decades of life [7]. Mandible is commonly affected (80%), with molar-angle-ramus areas threefold more frequent than the premolar and anterior regions combined. Patients present with chief complaints of swelling and facial asymmetry, with pain as an occasional presenting sign [8]. These clinical findings were evident in the present case series. The diagnosis is generally established by a combination of imaging and biopsy, the latter being the gold standard [9].

The cases in this series include UA, variants of conventional ameloblastoma-plexiform and acanthomatous types and the rare form- Adenoid ameloblastoma. Adenoid ameloblastoma is a hybrid odontogenic tumour that shows histopathological traits of both ameloblastoma and Adenomatoid Odontogenic Tumour (AOT), with approximately 40 cases reported with majority presented in 2nd to 5th decades in the posterior mandible and often asymptomatic. Surgical resection is the choice of treatment and only a limited number of cases are managed conservatively, with a recurrence rate of 30% [10,11]. Considering the aggressive nature, invasive growth tendency and recurrence potential en bloc resection was performed in the case reported in the present series.

The surgical treatment modalities can be broadly categorised into conservative and radical approaches. Conservative or minimally invasive techniques include marsupialisation, passive decompression, active decompression, curettage, enucleation, dredging, adjuvant therapies like peripheral ostectomy, chemical cauterisation, cryotherapy and various other modifications. Radical methods include en bloc resection, segmental resection and composite resection. The rationale of marsupialisation and decompression is that releasing the intraluminal pressure causes volumetric reduction of the cavity in large lesions, preserves vital structures such as nerves and tooth buds, maintains continuity of the mandible and prevents pathological fracture [12], often followed later by enucleation, which as defined by Gardner and Pecak (1980), is the removal of a lesion by shelling it out intact [13].

Active Decompression and Distraction Sugosteogenesis (ADDS) is an emerging technique which employs an evacuator (Evocyst), based on the concept of active intracystic negative pressure induced accelerated bone formation. It can reduce the lesion to about 50% of its original size in a short span of time (2 weeks), with continued osteogenesis even after the cessation of mechanical stimulation, in contrast to passive decompression and marsupialisation, requiring longer duration and patient cooperation. Final enucleation is carried out once the lesion measures less than 2 cm [14].

Peripheral ostectomy is a mechanical method of removal of additional bone from the osseous cavity, 2-3 mm beyond the visible margin. Alternatively, methylene blue can be used to stain the residual cells. Chapelle KA et al., in 1987 first proposed the use of Carnoy's solution (absolute alcohol 6 mL, chloroform 3 mL, glacial acetic acid 1 mL, ferric chloride 1 g) in relation to UA. It fixes and devitalises tumour cells by penetrating bone to a depth of 1.54 mm. Carnoy's solution denature the inorganic matrix, destroying its osteogenic and osteoconductive properties [5].

Lee PK and Samman N reported 10 % recurrence rate after treatment of 29 patients with UA, 93% of which are mural type with enucleation followed by application of Carnoy's solution. They proposed a possible benefit of carnoy's solution against recurrence [15]. In a study by Titinchi F and Brennan PA in which the majority of lesions occurred in the posterior mandible (57.1%) and unilocular (88.9%), were managed with enucleation followed by burring of the peripheral bone margin and application of Carnoy's solution which resulted in the lowest recurrences (9.1%) besides resection. Hence, Titinchi F and Brennan PA advocated enucleation with peripheral ostectomy and chemical cauterisation to be the most suitable method and a first line therapy for majority of the cases of UA [16].

Haq J et al., concluded that the recurrence rate is low with the use of Carnoy's solution following enucleation. This management is not only limited to unicystic lesions, but also solid and multicystic subtypes which have been historically managed more radically [6].

The conservative protocol comprising enucleation, peripheral ostectomy and Carnoy's solution was adopted in the present case series depending upon the patient's age, site, extent of the lesion, aesthetic and functional considerations for unicystic, conventional and acanthomatous type of ameloblastoma. Pogrel MA and Montes DM concluded that simple enucleation appears to be ineffective in the management of intraosseous ameloblastoma [17]. Enucleation with subsequent application of Carnoy's solution reduces the recurrence rate, estimated at approximately 16%. The mean period of recurrence has been reported to be around five years, highlighting the importance of long-term follow-up [4].

In their 2006 publication, Carlson ER and Marx RE recommended radical surgical resection with a 1-1.5 cm margin, based on histopathological evaluation, which revealed that conventional ameloblastoma extended 2-8 mm beyond their radiographic demarcation [18]. Similar radical approaches with or without continuity defect was recommended for mural ameloblastoma and adenoid ameloblastoma. The plexiform ameloblastoma in the present case series was managed through a radical surgical approach as it was extensive, in which segmental resection without disarticulation and primary reconstruction with reconstruction plate was done.

However, the best surgical treatment option for ameloblastomas is still a controversial issue, as the patient may experience serious aesthetic, functional and structural impairment. Further, the treatment in children is complicated due to continuing facial growth, increased bone turnover, greater proportion of cancellous bone, reactive periosteum and the presence of unerupted teeth. Taking all these factors into consideration appropriate treatment plans were devised and performed in our cases with regular periodic follow-up and no signs of recurrence.

Therefore, selecting the most appropriate treatment on an individual basis appears to be the best in minimising recurrence and at the same time maintaining a good quality of life.

CONCLUSION(S)

Conservative surgical management offers a valuable approach in selected cases of ameloblastoma, due to its potential to minimise surgical morbidity, preserves structural integrity, maintain function and minimise aesthetic compromise. Conservative management is justified in cases with well-demarcated, less aggressive lesions where complete excision is possible without extensive tissue loss. Radical surgery should be reserved for recurrences or extensively infiltrative tumours where conservative methods are unlikely to completely eradicate the lesion. An individualised treatment strategy, guided by thorough clinical, radiographic and histopathological evaluation, remains essential for achieving optimal outcome.

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