Case Report

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Conservative Management of Unicystic Ameloblastoma : A Case Report

Abstract:

Ameloblastoma is the most common benign odontogenic tumor of the jaws that constitutes about 1% of all cysts and tumors of the jaws[1,2]. It is generally a painless, slow growing, locally aggressive tumor causing expansion of the cortical bone, perforation of the lingual or the buccal cortical plate and infiltration to the soft tissues. It has peak incidence in third and fourth decade of life but can be found in any age group with equal gender predilection (1:1)[1,5]. The relative frequency of mandible to maxilla is reported to be varying from 80% -20% to 99–1%. In the mandible majority of Ameloblastoma are found in the molar ramus region[1,3]. In a conventional radiograph, Ameloblastoma can present as either unilocular or multilocular corticated radiolucency. The bony septae results in a honey comb, soap bubble or tennis racket appearance. In some places, cortical plates are spared and expanded where as in other region they are destroyed; root resorption is a common finding[6]. Buccal and lingual cortical plate expansion is more common in Ameloblastoma than in other tumour[7]. Conventional radiograph is sufficient for small mandibular lesions but maxillary lesions and extensive lesions require CBCT, CT and MRI to establish the extent of the lesion[7]. The challenge in managing Ameloblastoma is byattaining complete excision and reconstruction of the defect when the tumor is large. Ameloblastoma is treated by enucleation, curettage or surgical excision depending on size and type of the lesion and conservative therapy also.

This report gives a comprehensive knowledge regarding the conservative therapy using a Iodoform and paraffinpaste which has been a boon in treatment of odontogenictumor.

Key words: Ameloblastoma, iodoform.

Case Presentation:

A 24-year-old male reported to the OPD of ITS CDSR, Muradnagar, Uttar Pradesh with a chief complain of swelling on the left side of the face since 2 months associated with pain for same duration. The swelling was insidious in onset and gradually increased to the present size and is bony hard in nature. There was no history of trauma or decrease in the size of the swelling. There was a positive history of toothache or pus discharge. The patient was experiencing pain while chewing hard food. He was a known tobacco chewer since 4-5 yrs.

On examination, there was a solitary ill-defined diffuse swelling over the left middle and lower third of the face measuring about 5×8 cm extending superior-inferiorly from the left pretragal region to the lower border of the mandible and medio-laterally 1 cm from the left corner of the mouth to the left lateral border of the mandible. The surface was smooth and the skin overlying the swelling was stretched and was of normal colour with no secondary changes to be found. It was non-tender and hard on palpation.

Intraoral examination revealed an ill-defined solitary swelling in the left lower posterior buccal vestibule extending antero-

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[1]AMIT GUPTA, [2]AKANKSHA KUMARI, [3]RCP VIJAYA CHANDINI, [4]SHIVAM AGARWAL, [5]SHIVAM AGARWAL

[1-5]ITS Dental College, Ghaziabad

Address for Correspondence: Dr. Shivam Agarwal
Assistant Professor
Its Dental College, Ghaziabad
Email: Sashivamagg@gmail.com

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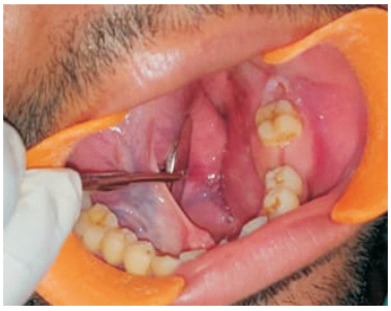
posteriorly from 36 to the retromolar region andmedio-laterally. 1.5 cm from the buccal surface of the molars to 1 cm lingual to molars with smooth surface and mucosa overlying was stretched and similar to adjacent mucosal colour with no secondary changes to be found. It was non-tender and hard in consistency with buccal and lingual cortical plate expansion.

Considering the clinical findings, a tentative diagnosis of benign tumor of the left side of lower jaw was made. Ameloblastoma was the differential diagnosis as it is the most commonly occurring tumor in the mandibular molar body region in this age group. Second. Odontogenickeratocyst was considered, which has similar site of occurrence. An incisional biopsy was made and the specimen was subjected to histopathological examination

(Fig. No 1)frontal View

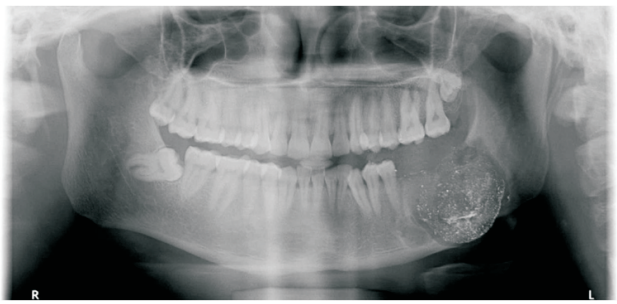


(Fig. No 2) Intra Oral View

Investigations:

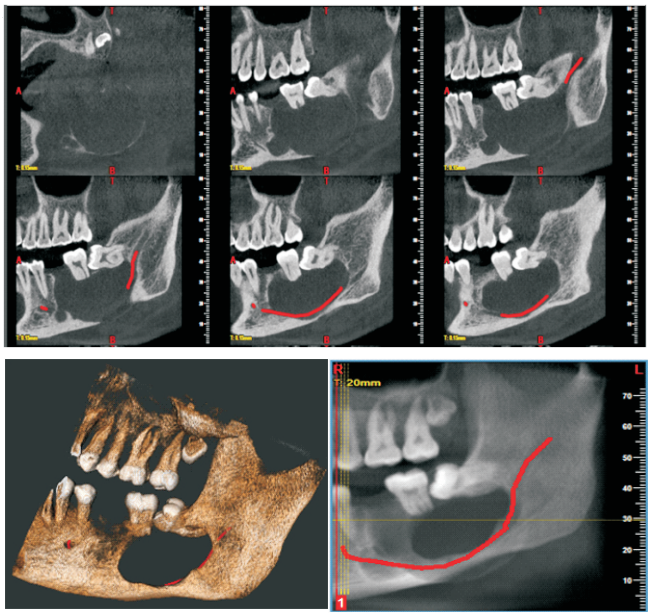
The patient was subjected to radiographic and routinehaematological examination. The haematological findings were not significant.

Orthopantomogram (OPG):



(Fig 3) PRE OP OPG

The OPG of the jaw revealed a very large well-defined radiolucent expansile lesion in the left body and ramus of the mandible with honeycomb appearance causing expansion of



(Fig. no. 4) CBCT SCAN

Provisional Diagnosis:

Odontogenic keratocyst, odontogenic myxoma, central giant cell granuloma and Brown's tumor of hyperparathyroidism, Residual cyst.

Histopathology:

Submitted H and Esection show cystic lining epithelium which is 2-3 cell layers thick resembling reduced enamel epithelium. At focal areas, the epithelium lining is transforming into Ameloblastoma, epithelium lining having basal cells which are tall columnar with hyper chromatic nuclei in a palisaded arrangement and intra cytoplasmic vacuolization. The superficial cells are loosely arranged resembling stellate reticulum. The underlying connective tissue capsule is fibrocellular in nature having thick and thin bundles of collagen fibres interspersed with plump fibroblast. Blood vessels of varying size and shape lined by endothelial cells are seen. Suggestive of Unicystic Ameloblastoma arising from dentigerous cyst.

Final Diagnosis:

Unicystic Ameloblastoma.

Treatment:

Iodoform dressing was placed as a conservative therapy along with the extraction of 36, 37 was done. This dressing was changed after every week.

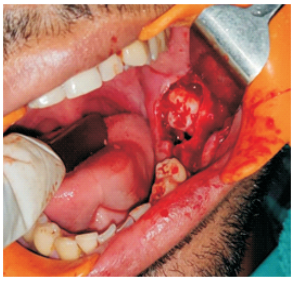
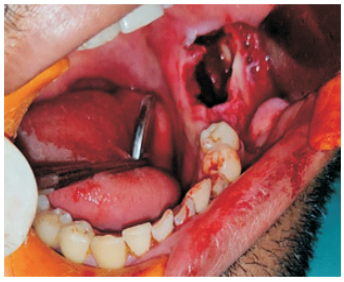


Fig. no. 5



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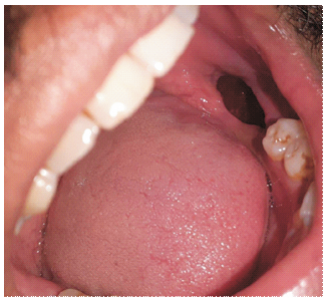


Fig. no. 7

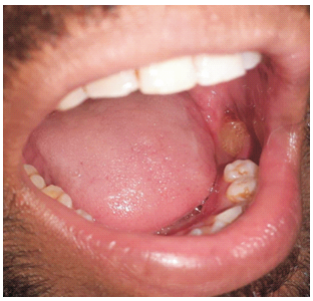
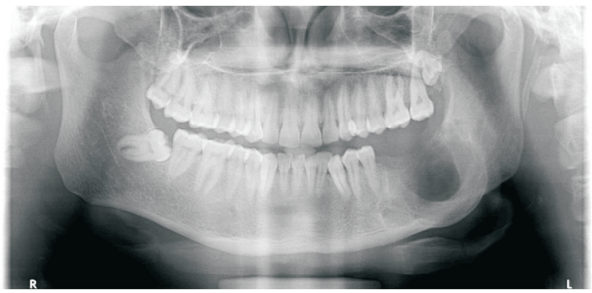


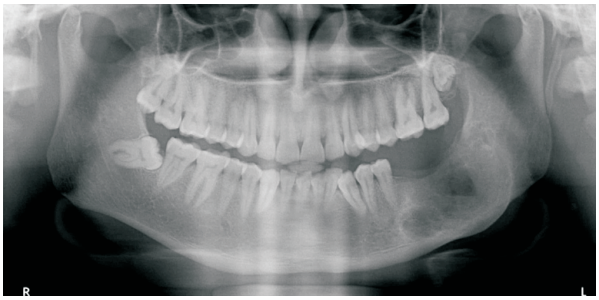
Fig. no. 67

Outcome And Follow-up:

The postoperative period was uneventful. The patient's aesthetics and function was restored. The patient was followed up for 6 months with no evidence of complication or recurrence. Because of dressing there is a marked osteoblastic activity seen. Initiation of the cortical bone formation is seen in the inferior border of the mandible of the affected area. Currently the patient is under biannual follow-up.



(Fig. no. 8) POST OP OPG



(Fig. no. 9) Post Op Opg After 9 Months

Discussion:

Ameloblastoma is a neoplasm of odontogenic epithelium, principally of enamel organ-type tissue that has , undergone differentiation to the point of hard tissue formation.[6] It accounts for about 1% of all oral tumors and about 9–11% of odontogenic tumors. It is generally a slow-growing but locally invasive tumor.[7] Its peak incidence is in the third to fourth decades of life and the male: Female ratio is 1:1. Its incidence was 0.6 cases/million, and of 0.31 cases/million in a white population of South Africa[8,9]. Ameloblastoma accounted for 60.3% of all odontogenic tumors in Indian population, with a mean age of presentation of 30.2 years. A slight male predilection and major occurrence in the mandibular molar-ramus area were elicited.[10] They are classified as unicystic, multicystic or solid, 86% of cases are multicystic Ameloblastoma. Ameloblastomain the mandible can progress to great size and cause facial asymmetry, displacement of teeth, malocclusion, and pathologic fracture. Ameloblastoma is a benign epithelial odontogenic tumor often aggressive and destructive with the capacity to erode bone and invade adjacent structures.[9] Ameloblastoma of the lower jaw can progress to variable sizes (1–16 cm) and cause facial asymmetry, displacement of teeth, malocclusion and pathological fractures.[1] In the present case also the patient's clinical examination revealed a large hard swelling in the ascending ramus and molar region of the mandible which had caused the facial asymmetry, loose teeth and expansion of the buccal as well as the lingual cortical plate. Unicysticameloblastoma (UA) represents an ameloblastoma variant, presenting as a cyst that show clinical and radiologic characteristics of an odontogenic cyst. In histological examination shows a typical ameloblastomatous epithelium lining part of the cyst cavity, with or without luminal and/or mural tumor proliferation. In 1977, Robinson and Martinez first used the term “UA,[14]” but it was also named in the second edition of the international histological classification of odontogenic tumors by the WHO as “cystogenicameloblastoma.” Three pathogenic mechanisms for the evolution of UA: Reduced enamel epithelium, from dentigerous cyst and due to cystic degeneration of solid ameloblastoma.[15] 5–15% of all ameloblastomas are of the unicystic type.[17] Comparing unilocular and multilocular variants, there is an apparent predominance of a unilocular configuration in all studies of UA, especially in cases associated with impacted teeth[16]. Five to 15% of all ameloblastomas are of the unicystic type. UA with an unerupted tooth occurs with a mean age of 16 years as opposed to 35 years in the absence of an unerupted tooth. The

mean age is considerably lower than that for solid/multicysticameloblastoma with no gender predilection[17].UA is a prognostically distinct entity with a recurrence rate of 6.7–35.7%, and the average interval for recurrence is approximately 7 years. Six radiographic patterns are identified for UA, ranging from well-defined unilocular to multilocularones. UA might mimic other odontogenic cysts clinically and radiographically. Treatment of UA includes both radical and conservative surgical excision, curettage, chemical and electrocautery, radiation therapy or combination of surgery and radiation .

Iodoform paste is a bright yellow paste iodoform 500mg/g and liquid paraffin 250 mg/g. It is usually indicated to pack cavities after ear, nose and throat surgery. This paste is usually placed in cavities and left inplace till the cavities heals or a graft is taken. It is not recommended to be used for open wounds.

Bismuth has topical antiseptic properties and can be used as an astringent. This property contributes to the antibacterial properties of BIPP by releasing dilute nitric acid on hydrolysis. Iodoform chemical name is triodomethane. This is another component of BIPP. It has a distinctive colour as well as smell. Iodoform decomposes to release iodine which is an antiseptic. Paraffin is added into BIPP as a lubricant which aids in atraumatic placement and removal of pack.[8]

Conclusion:

With the long term follow up and use of BIPP we could save the patient of a supra-major surgery including resection of mandible. The only drawback is increased chances of pathological fracture during the follow up period. Patient should be advised soft diet for a long period. This method of conservative management using BIPP can be used in benign lesions, cystic lesions etc. and not in case of malignancies where an aggressive approach remains the treatment of choice.

References:

1. Kahairi A, Ahmad RL, Islah Wan L, et al. Management of large mandibular ameloblastoma—a case report and literature reviews. Arch OrofacSci2008;3:52–5.
2. Giraddi GB, Bimleshwar, Singh C, et al. Ameloblastoma—series of 7 treated cases—and review of literature. Arch Oral Sci Res 2011;1:152–5.
3. Vohra FA, Hussain M, Mudassir MS. Ameloblastomas and their management: a review. Pak JSurg2009;14:136–42.
4. Varkhede A, Tupkari JV, Mandale MS, et al. Plexiformameloblastoma of mandible—case report. J ClinExp 8.Dent 2010;2:e146–
5. Pizer ME, Page DG, Svirsky JA. Thirteen year follow-up of large recurrent unicysticameloblastoma of the mandible in a 15-year old boy. J Oral MaxillofacSurg2002;60:211 –15.
6. Wood NK, Goaz PW. Differential diagnosis of oral and maxillofacial lesions. In: Wood NK, Goaz PW, Kallal RH, eds. MultilocularRadiolucencies. 5th edn. Elsevier Publishing, 2007:333– 55.
7. Hertog D, Van der Waal I. Ameloblastoma of the jaws: a critical reappraisal based on a 40-years single institution experience. Oral Oncol2010;46:61–4.
8. Agarwal R, Sangle A, Vyawahare A. Bismuth Iodoform and Paraffin Paste: A Boon in Treatment of KeratocysticOdontogenic Tumor : A Case Report. Int J Dent Med Res2014;1(2):32-35.
9. Nakamura N, Mitsuyasu T, Higuchi Y, Sandra F, Ohishi M. Growth characteristics of ameloblastoma involving the inferior alveolar nerve: A clinical and histopathologic study. Oral Surg Oral Med Oral Pathol Oral RadiolEndod 2001;91:557-62.
10. Becelli R, Carboni A, Cerulli G, Perugini M, Iannetti G. Mandibular ameloblastoma: Analysis of surgical treatment carried out in 60 patients between 1977 and 1998. J CraniofacSurg 2002;13:395-400.
11. Larsson A, Almerén H. Ameloblastoma of the jaws. An analysis of a consecutive series of all cases reported to the Swedish Cancer Registry during 1958--1971. ActaPatholMicrobiolScand A 1978;86A: 337-49.
12. Shear M, Singh S. Age-standardized incidence rates of ameloblastoma and dentigerous cyst on the Witwatersrand, South Africa. Community Dent Oral Epidemiol 1978;6:195-9.
13. Krishnapillai R, Angadi PV. A clinical, radiographic, and histologic review of 73 cases of ameloblastoma in an Indian population. Quintessence Int 2010;41:e90-100.
14. Robinson L, Martinez MG. Unicysticameloblastoma: A prognostically distinct entity. Cancer 1977;40:2278-85.
15. Robert EM, Diane S. Oral and Maxillofacial Pathology: A Rationale for Diagnosis and Treatment. Chicago, Ill, USA: Quintessence; 2003.

16. Eversole LR, Leider AS, Strub D. Radiographic characteristics of cystogenicameloblastoma. Oral Surg Oral Med Oral Pathol1984;57:572-7.

17. Barnes L, Eveson JW, Reichart P, Sidransky D, editors. World Health Organization Classification of Tumours: Head and Neck Tumours. Lyon, France: IARC Press; 2005.