Report of Unicystic Ameloblastoma of Mandible in a Young Adult – A Radiological Perspective

Bhuvana Krishnamoorthy¹, Havi Sharma², Suma GN³, Rahul Kukreja⁴

¹- Professor, Department Of Oral Medicine and Radiology, ITS Dental College, Muradnagar, Ghaziabad (UP), India. ²- ³- PG Student, Department Of Oral Medicine and Radiology, ITS Dental College, Muradnagar, Ghaziabad (UP), India. ⁴- Professor and Head, Department Of Oral Medicine and Radiology, SGT Dental College, Gurgaon (Haryana), India.

Correspondence to:
Dr. Havi Sharma, PG Student, Department Of Oral Medicine and Radiology, ITS Dental College, Muradnagar, Ghaziabad (UP), India
Contact Us: www.ijohmr.com

ABSTRACT

Unicystic ameloblastoma (UA) is a rarely encountered, less aggressive variant of ameloblastoma. It refers to those cystic lesions which radiographically exhibits features of jaw cyst but show a typical ameloblastomatous epithelial lining on histologic examination. Imaging is very important in diagnosing this tumour which has considerable similarities with odontogenic cysts. Here we report a case of an UA in an 18 year old male patient and discuss the role of panoramic radiograph, Cone beam computed tomography and Ultrasonography in the investigation and treatment.

KEYWORDS: Unicystic Ameloblastoma, Ultrasonography, Cone beam computed tomography of mandible

CASE REPORT

An 18 year old male patient reported to our department with a chief complaint of swelling on the right lower back tooth region since 3 months (Figure 1). Patient gave a history of trauma from the blunt end of knife on the right lower back tooth region 3 months back. He noticed a small pea size swelling after 3–4 days of trauma which gradually increased to present size. Medical and dental history were non-significant. On examining extra orally a solitary diffuse swelling was present on lower 1/3rd of right side of face of approximately 3 x 2.5 cm in size, extending in superior to inferior direction from 1 cm below the ala tragus line to base of mandible and in anterior to posterior direction from 2 cm posterior to corner of mouth to 1.5 cm anterior to pinna of ear. On palpation, swelling was soft to firm in consistency, non-tender, no change in overlying skin with no rise in local temperature. Obliteration of buccal vestibule was seen in the region of 45, 46, 47 due to the swelling. Mucosa over the swelling was normal. On palpation, there was expansion of the cortical plates in the region 45, 46, 47 along with grade II mobility in these teeth (Figure 2). Electrical pulp vitality test was performed in relation to 45, 46, 47, and they were non-vital. Third molar in this quadrant was missing.

A provisional diagnosis of aneurysmal bone cyst with a differential diagnosis of ameloblastoma was made. Fine needle aspiration cytology (FNAC) was performed, and the aspirate was a blood mixed fluid.

Panoramic radiograph (OPG), Ultrasonography (USG) and Cone beam computed tomography (CBCT) were advised for the patient. On the panoramic radiograph (Figure 3), a well-defined multilocular radiolucency on
the right body of mandible extending from distal aspect of 43 to mesial aspect of 48 was seen. It had a well defined periphery without sclerotic border. The septae within the lesion gave an appearance of a spider web. The lesion caused resorption of roots of 44 and 45. Inferior border of mandible was intact along with intact cortices of mandible. 48 was impacted. An ultrasonographic examination with Color Doppler (Figure 4) using a High frequency Linear probe showed that the lesion mostly appeared hypoechoic with multiple internal echoes, well circumscribed in margins with posterior acoustic enhancement and was avascular. CBCT (Figure 5) revealed additional features which were not visible on panoramic radiograph like marked expansion, thinning of adjoining buccal, lingual and inferior cortices was appreciated with cortical effacement of the right inferior alveolar canal. The lesion had a radiolucent matrix with patchy fine bony septae in the peripheral sub-cortical region and centrally within the matrix, giving rise to multilocular appearance. Apical blunting and resorption of roots of 46 and 47 were also seen.
Incisional biopsy was performed under LA in the department of Oral and Maxillofacial Surgery, and the H&E stained section (Figure 6) showed epithelium and connective tissue component. Epithelium was thin 2-4 cell layer thick in certain areas, and hyperplastic at other areas. Basal cells showed palisaded arrangement in few foci and superficial cells resembled stellate reticulum. There was proliferation of epithelium in the lumen at a few areas. Underlying connective tissue was fibrocellular in nature having thick bundles of collagen fibers, fibroblasts, blood vessels of varying sizes. Considering the clinical, radiological and histological findings a final diagnosis of unicystic ameloblastoma was given, and the patient was referred to Department of Oral and Maxillofacial Surgery, where marsupialisation of the lesion was done. The post operative CBCT (Figure 7) taken at 4 months showed evidence of formation of new endosteal bone with numerous small coarse new bone trabeculae along inferior, buccal anterior and posterior margins of the lesion and also residual lingual – crestal margins in posterior 1/3 of the lesion. There was early evidence of re-cortication along the buccal inferior margin of the lesion in 47, 48 region and slight re-cortication along the lingual margin in inferior third of lesion. Soft tissue thickening and internal air density were noted within the lesion which suggested the healing of the lesion. The patient is still under follow up.

Ameloblastoma is the most common tumour of odontogenic origin developing from epithelial cellular elements and dental tissues, especially among the Asians. It is slow growing in nature, persistent and locally aggressive neoplasm of epithelial origin accounting for 10% of the odontogenic tumours. It is commonly seen in the third to fourth decade of life with equal sex distribution. The majority of the ameloblastomas are seen in the mandible and the posterior part of mandible is the common site often associated with an un-erupted molar. There are three forms of ameloblastomas, namely unicystic, multicystic and peripheral. Multicystic is the most common represents 86% of the cases. Unicystic ameloblastoma (UA) is a rare type of ameloblastoma, which account for about 6% of ameloblastomas. The term unicystic is derived both from the macro, and microscopic presentation of the lesion. UA is one which has a large cystic cavity with luminal, intraluminal or mural proliferation of ameloblastic cells. It is of significance since it is a less aggressive variant which has a low recurrence rate. It’s usually seen in a younger age group, with about 50% of the cases occurring in second decade of life. More than 90% of the cases are associated with the impacted tooth, and the mandibular third molar is the most commonly involved tooth. The patient usually presents with a facial swelling or facial asymmetry, may be an occasional presenting symptom. Although mucosal ulceration is rarely found, it may be present due to continued growth of the tumour. Along with it the patient may also present with mobile tooth, alteration at the occlusal surface and failure in eruption of teeth caused by the tumour. Small lesions are discovered accidentally on routine radiographic screening examinations. Diagnosis for UA on histopathological examination can be made if the lesion shows a cystic sac surrounded by an odontogenic epithelium which is seen in focal areas. As UA has a higher recurrence rate it should be differentiated from odontogenic cysts.

H. M. Worth has classically described 4 patterns for the radiographic appearance of ameloblastoma in which he says that the Unicystic type usually appears as unilocular radioluency resembling a cyst. However, unlike a cyst, it causes a break or discontinuity in the peripheral cortex and may even show trabeculae within lumen. In children and young adults, however, ameloblastomas may present as unilocular or as multilocular radiolucent lesions which can histologically be either unicystic or multicystic. Our case was of the multilocular unicystic variety. Radiological interpretation is paramount in this group of patients because it helps to standardize the surgical management. Ogunsalu C et al. have categorized ameloblastomas radiologically by studying 18 cases below 20 years of age. Features such as presence /absence of root resorption and cortication at the periphery are useful in determining the aggressive nature of the lesion. Ameloblastoma in children and young adults are believed to be progressive in growth, especially those with less or no cortication. Also, patients in this age group may require a longer and more frequent evaluation.
虽然囊状成釉细胞瘤一般具有较低的复发率。放射线片可用于研究肿瘤与正常骨之间的界面，但对确定其向软组织的延伸作用不大。CT、锥形束计算机断层扫描和磁共振成像可能在诊断中发挥重要作用。但考虑到辐射安全问题，CBCT更受青睐。虽然在CBCT上的表现与普通片相似，但CBCT具有优势，因为它有助于更好地定义图像并评估周边结构与相邻结构的关系。CBCT还可以检测外层骨皮质的穿孔。例如，在我们的病例中，术后的CBCT扫描有助于观察到死腔内结构的细微变化。磁共振成像（MRI）在评估肿瘤的侵略性方面具有重要价值，并有助于治疗计划制定，特别是在年轻患者中。新的成像技术，如CBCT，在术后随访中也有助于。USG正作为一个有用的工具用于诊断骨肿瘤。

结论

UA是一种罕见的成釉细胞瘤变，通常在生命早期出现。我们的18岁患者在保守治疗中接受了外翻术。成像在评估肿瘤的侵略性方面具有重要价值，并有助于治疗计划制定，特别是在年轻患者中。新的成像技术，如CBCT，在术后随访中也有助于。USG正作为一个有用的工具用于诊断骨肿瘤。

参考文献


来源支持：无
利益冲突：无