Gavin Publishers
Gavin Journal of Case Reports
Volume 2016; Pages 3
Chu YK

Case Report

Maxillary Ameloblastoma: A Pictorial Case Report

Yum-Kung Chu*

Department of Nuclear Medicine, Taipei Veterans General Hospital, Taiwan

***Corresponding author:** Yum-Kung Chu, Department of Nuclear Medicine, Taipei Veterans General Hospital, No. 201, Shipai Road Sec. 2, Beitou District, Taipei, Taiwan 11217, Tel: 886-2-28757301; Fax: 886-2-28715849; E-mail: ykchu@vghtpe.gov.tw

Citation: Chu YK (2016) Maxillary Ameloblastoma: A Pictorial Case Report. Gavin J Case Rep 2016: 16-18.

Received: 08 July, 2016; **Accepted:** 18 August, 2016; **Published:** 01 September, 2016

Abstract

Ameloblastoma is a benign but locally aggressive odontogenic tumor. Worldwide, maxillary ameloblastoma is rare, but its late detection renders adequate treatment difficult. Majority occur in the mandible with about 5-20% occurring in the maxillary bone. Here we report a case of ameloblastoma of the left maxilla in a 35-year-old man. The tumor was presented as a painless swelling in the left face. The lack of a thick wall and the proximity of vital structures contribute to the accelerated tumor extension, and thus the potentially lethal result of a maxillary ameloblastoma. This presentation aims to raise awareness and increase understanding of the neoplasm, which is insidious and usually manifests as an aggressive destruction.

Keywords:

Ameloblastoma; Maxilla; Odontogenic epithelium

Introduction

Ameloblastoma arises from odontogenic epithelium of embryonal tooth element and is most frequent (80%) in the mandible, with 5 to 20% occurring in the maxilla [1]. The tumor is slow growing and tends to present in the 3rd to 5th decades of life, with no gender predilection. Although histologically benign, it is a locally aggressive neoplasm with a high rate of recurrence. The painless and slow growth of the lesion and the radiographic anatomy of the maxilla are the main factors for delay in recognition maxillary ameloblastoma. The lack of a thick cortical plate and the proximity to vital structures with abundant blood supply may also contribute to the accelerated spread of this neoplasm, and thus the potentially lethal result of a maxillary ameloblastoma [2]. Ameloblastoma of the maxilla requires aggressive radical excision at the time of initial diagnosis.

Case Report

A 35 year-old man was referred to the Stomatology Department, with a swelling on the left side of the cheek for about one year. There was no associated pain, difficulty in opening the mouth, chewing or articulating. Examination showed a palatal hard bulging, extending from the region of left second premolar to the second molar and covering by normal mucosa. No neck lymph nodes were palpable. Systemic examination was normal. An orthopantomogram (OPG) revealed a cystic radiolucency in the left maxilla with root resorption of teeth 25 to 27, and absence of tooth 28 (Figure 1). Computed tomography (CT) showed an expansile lesion in the left maxilla exhibiting features of calcification, with a thinned out cortex (Figure 2). Tc-99m MDP bone scan performed to determine the extent and activity of the lesion revealed an avid unilocular tumor (arrow) in the left maxilla (Figure 3).

Based on the radiological appearances, the tentative diagnosis of an odontogenic cyst (ameloblastoma) was suggested. The patient underwent an incisional biopsy, which showed a well-differentiated ameloblastoma. Due to its high tendency to infiltrate and recur, partial maxillectomy from the premolar region up to the pterygoid plates was then performed along with removal of the affected teeth. The lesion with its cystic envelop was enucleated to ensure complete removal. Histological sections from the specimen revealed ameloblastomatous epithelial lining of the cystic space. The definite diagnosis was unilocular ameloblastoma. The postoperative course was without complications. The patient is under followed-up at his nearby county hospital for 2 years with no sign of recurrence.

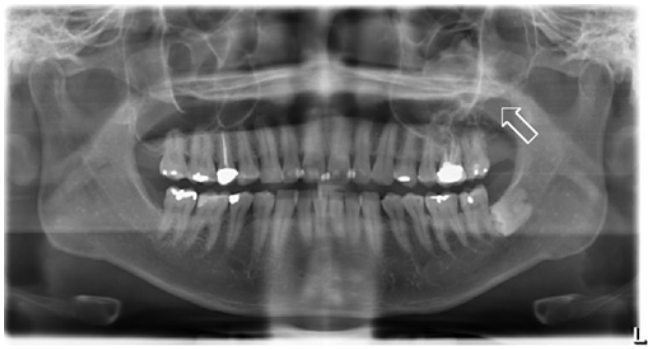

Figure 1: The orthopantomograph revealed a unilocular radiolucency extending from premolar to molar regions with root resorption of teeth 25 to 27, missing teeth 18, 28 and 48, and impacted tooth 38.

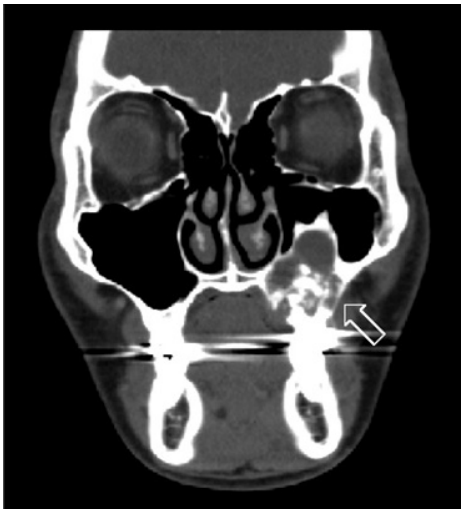

Figure 2: Computed tomography showed a cystic lesion with thin bony walls extending from the left maxillary alveolar process into the maxillary sinus. Multiple amorphous calcifications were noted.

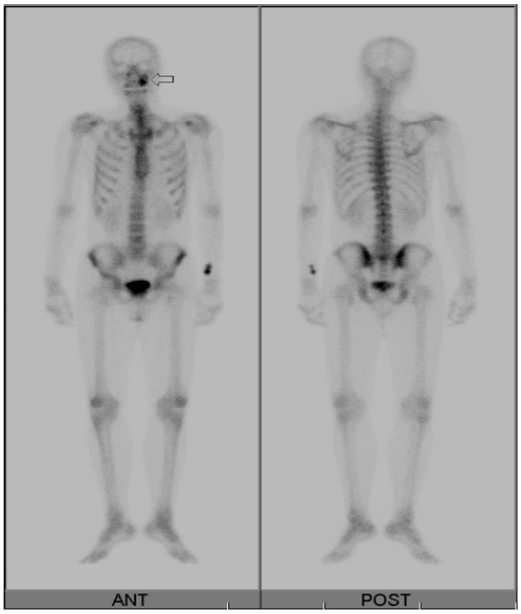

Figure 3: Tc-99m MDP bone scan performed to determine the extent and activity of the lesion revealed an avid unilocular tumor (arrow) in the left maxilla.

Discussion

Ameloblastoma is a benign neoplasm of odontogenic epithelium residing in the mandible and less often the maxilla, with an estimated incidence in the population of approximately 0.5 per million [3]. There are four sub-types of ameloblastomas, namely solid/multicystic, desmoplastic, unicystic and extra-osseous/peripheral types [4]. Ameloblastoma is typically slow-growing, but locally invasive behavior with a high rate of recurrence [5]. The vast majority of ameloblastomas (80%) arise in the mandible, and most of these are found in the angle and ramus region. When the maxilla is involved (5 to 20%), the tumor is located in the premolar region, and can extend up in the maxillary sinus. Nasal obstruction, localized facial enlargement, and bulging of the cheek, gingiva or hard palate are usually presented in maxillary ameloblastomas [1, 6]. Pain is an uncommon finding, referred in some cases, but it is not clear whether the pain is caused by the tumor itself or by a secondary infection [6].

Radiographically ameloblastomas may present as a unilocular or multilocular corticated radiolucency that may or may not be associated with an unerupted tooth. Resorption of the adjacent tooth roots can be seen. When larger it may also erode through cortex into adjacent soft tissues [7, 8]. Histologically ameloblastoma consists of a proliferation of solid strands, cords and islands of odontogenic epithelium supported by connective tissue stroma. This proliferating epithelium can undergo cystic changes [5]. The subtle behavior of the lesion and the difficulty of visualizing clinically, and, on plain radiographs may prohibit early detection [9, 10].

The goal of treatment of ameloblastoma is to achieve complete excision and appropriate reconstruction. Ameloblastomas of the maxilla generally are more difficult to treat than those of the mandible because of anatomic relationships, as well as the characteristics of the well vascularised, fragile, cancellous maxillary bones [6]. The proximity to vital structures contributes to the neoplasm extension, and thus the potentially lethal result [6, 9]. A late detection also renders adequate treatment difficult. Initial radical resection, regardless of histological variant of ameloblastoma, is almost always recommended for the tumor. As noted, inadequate initial surgical treatment yields a high chance of local recurrence [11]. Sehdev and associates reviewed 92 ameloblastoma patients and reported that the conservative approach (curettage) was followed by local recurrence in 90% of the mandible and 100% of the maxillary ameloblastoma [1]. Radiotherapy has rarely been used because it is generally believed that ameloblastomas are radioresistant. The prognosis of the treatment is basically dependent to the extension of the lesion and adjacent structures involvement rather than origin of lesion. Annual follow up for at least 10 years has been recommended as maxillary ameloblastomas are more dangerous clinically and can invade adjacent sinus and vital structures [6, 9].

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

References

1. Sehdev MK, Huvos AG, Strong EW, Gerold FP, Willis GW (1974) Ameloblastoma of maxilla and mandible. Cancer 33: 324-333.
2. Iordanidis S, Makos C, Dimitrakopoulos J, Kariki H (1999) Ameloblastoma of the maxilla. Case report. Aust Dent J 1999 44: 51-55.
3. Gomes CC, Duarte AP, Diniz MG, Gomez RS (2010) Review article: Current concepts of ameloblastoma pathogenesis. J Oral Pathol Med 39: 585-591.
4. Thompson L (2006) World Health Organization classification of tumours: Pathology and genetics of head and neck tumours. Ear Nose Throat J 85: 74.
5. Shaikhi K, Neiders M, Chen F, Aguirre A (2012) Morphological variants of ameloblastoma and their mimickers. NAJ Med Sci 5: 20-28.
6. Dwivedi N, Raj V, Chandra S, Agarwal A (2013) Maxillary ameloblastoma extending into the maxillary sinus. Eur J Gen Dent 2(2): 182-186. DOI; 10.4103/2278-9626.112325.
7. Weissman JL, Cynderman CH, Yousem SA, Curtin HD (1993) Ameloblastoma of the maxilla: CT and MR appearance. AJNR 14: 223-226.
8. Philipsen HP, Reichart PA (1998) Unicystic ameloblastoma. A review of 193 cases from the literature. Oral Oncol 34: 317-25.
9. Hertog D, van der Waal I (2010) Ameloblastoma of the jaws: A critical reappraisal based on a 40-years single institution experience. Oral Oncol 46: 61-64.
10. Williams TP (1993) Management of ameloblastoma: A changing perspective. J Oral Maxillofac Surg 51: 1064–1070.
11. Müller H, Slootweg PJ (1985) The ameloblastoma: Controversial approach to therapy. J Maxillofac Surg 13: 79-84.