



Case Report

Maxillary ameloblastoma in an elderly patient: Report of a surgical approach



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ABSTRACT

Ameloblastoma is an odontogenic benign tumor of epithelial origin that is characterized by slow, aggressive growth and invasive features. This disease is predominant in the mandible, and in adults between 30 and 40 years of age. It rarely occurs in the maxilla; there are few reported cases in literature, with relative proportions of 1:8 and 1:14 or even 1:58 diagnosed maxilla/mandible ameloblastoma cases, according to published retrospective studies. The purpose of this study is to present and discuss a case of ameloblastoma in the maxilla of an elderly man from the state of Pará in Brazil, who presented with a lesion in the left maxilla. The clinical and surgical steps were chosen based on a set of criteria that will be discussed in this report.

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1. Introduction

Ameloblastoma is the most common and clinically significant odontogenic tumor of epithelial origin. This lesion may originate from the remnants of the dental lamina, enamel organ, the lining of odontogenic cysts, or the basal cells of the oral mucosa [1–3].

This type of tumor is common among patients in their 30s and 40s and is rare in older individuals. This age predilection emphasizes the importance of prognosis and provides insights into the etiology of the disease, which has not yet been elucidated [2,3].

Although ameloblastoma is a slow-growing, benign tumor, it is aggressive and expands locally into other anatomical structures [1,4–6]. Patients with ameloblastoma are usually asymptomatic. The tumor generally occurs in the posterior aspect of the mandible; very few reports describe ameloblastomas in the maxilla [1]. In retrospective clinical studies, the incidence of ameloblastomas in the maxilla has been found to be exceptionally low; the incidence rates of ameloblastomas range from 1:8.8 to 1:58 in the maxilla and mandible, respectively [7–9].

Among the histological types of ameloblastoma, the desmoplastic variant has an almost equal incidence in the maxilla and the mandible,

occurring more commonly in the maxilla in comparison with other traditional variants of this tumor. The case presented here was considered to be rare due to the unusual location of the tumor, the age of the patient, and the histological type of the tumor [5,8,10].

When the tumor reaches a considerable size, it can compromise the airways and the digestive system and increase the risk of death, therefore becoming symptomatic. Because of the spongy structure of the maxilla, ameloblastomas in this region can acquire a significant size and spread through the sinuses, compromising the orbits and cranial cavity [3,10].

The aim of this study was to report a rare case of a conventional solid ameloblastoma in the maxilla of an elderly individual and to discuss the surgical management of this and other similar cases.

2. Case presentation

An 81-year-old man was referred to the Department of Oral and Maxillofacial Surgery and Trauma because of a swelling of the maxilla that was diagnosed as a peripheral ameloblastoma in his hometown. Panoramic radiographs showed radiolucent areas with undefined borders on the left side, but no findings that were supportive of a diagnosis.

The patient denied being diabetic or hypertensive; he did report that he was a former smoker, former alcoholic, and had a history of skin cancer on the right side of the face. The cancer was surgically excised; radiotherapy and/or chemotherapy were not administered. The patient also claimed to have severe chronic obstructive pulmonary disease (COPD), which the surgical team opined was a strong risk factor to be

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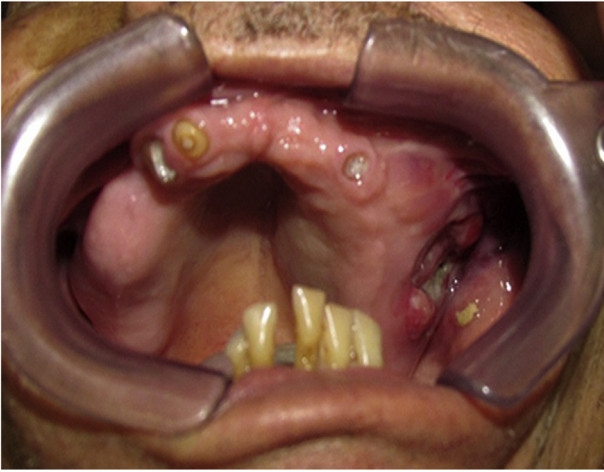


Fig. 1. Initial intra-oral examination. Large mass in the alveolar border of the left maxilla, extending to the depth of the vestibular fissure and palate, with an area of painless ulceration.

taken into consideration when formulating the plan for surgical management of the case.

The extra-oral clinical examination revealed facial asymmetry with a slight dystopia on the left side. Intra-oral examination revealed a large mass at the alveolar border of the left maxilla extending to the depth of the vestibular fissure and palate, with an area of painless ulceration (Fig. 1).

Additional medical tests were performed including cone beam computed tomography scans (CBCT) that showed tumor growth approximately 55×41 cm in the left maxilla. Extensive bone loss in the left maxilla, zygoma, sphenoid, destruction of the left lateral wall of the nasal cavity, and infiltration by the lesion were noted in maxillar sinus, nasal cavity and retropharyngeal area, in addition to destruction

of a portion of the floor of the orbit. Destruction of the cortical bone of the maxilla was also observed suggesting that this was the site of a primary intra-osseous growth and contradicting the initial diagnosis of a peripheral ameloblastoma (Fig. 2).

A biopsy of the lesion was performed and histopathological examination revealed the presence of a benign odontogenic tumor of epithelial origin. The parenchyma consisted of a proliferation of islands and strands of columnar cells in the periphery, similar to ameloblasts and pre-ameloblasts. In the central portion of the islands and strands, loosely arranged cells, similar to the stellate reticulum of the enamel organ, were observed, confirming a diagnosis of a conventional solid-type ameloblastoma (Fig. 4).

Owing to the patient's advanced age and severe COPD and the need for major surgery for facial reconstruction, the surgical palliative technique elected was curettage of the lesion that aimed to preserve as much of the bone structure as possible, especially the infraorbital margin and orbital floor, with the goal of supporting the ocular globe. Clearance of the nasal cavity was carried out using the same technique (Fig. 3). Patency of the upper airway was priority in this case.

During the 1-year follow-up examination, the patient was found to be in good health. There was no swelling and the patient did not complain of a compromised quality of life. Imaging showed partial clearance of the airways and filling of the surgical cavity with hypodense relapsing tumor tissue (Fig. 5).

At 2 years post-treatment, the patient was stable. No facial swelling, infection, or upper airway involvement observed. The team chose to observe the tumor; the responsible medical staff viewed further surgery to be contraindicated. Severe COPD and old age are limiting factors in the surgical treatment of patients like this.

3. Discussion

Ameloblastoma is relatively common among young patients and is frequently located in the mandible. Because of this location, it is not

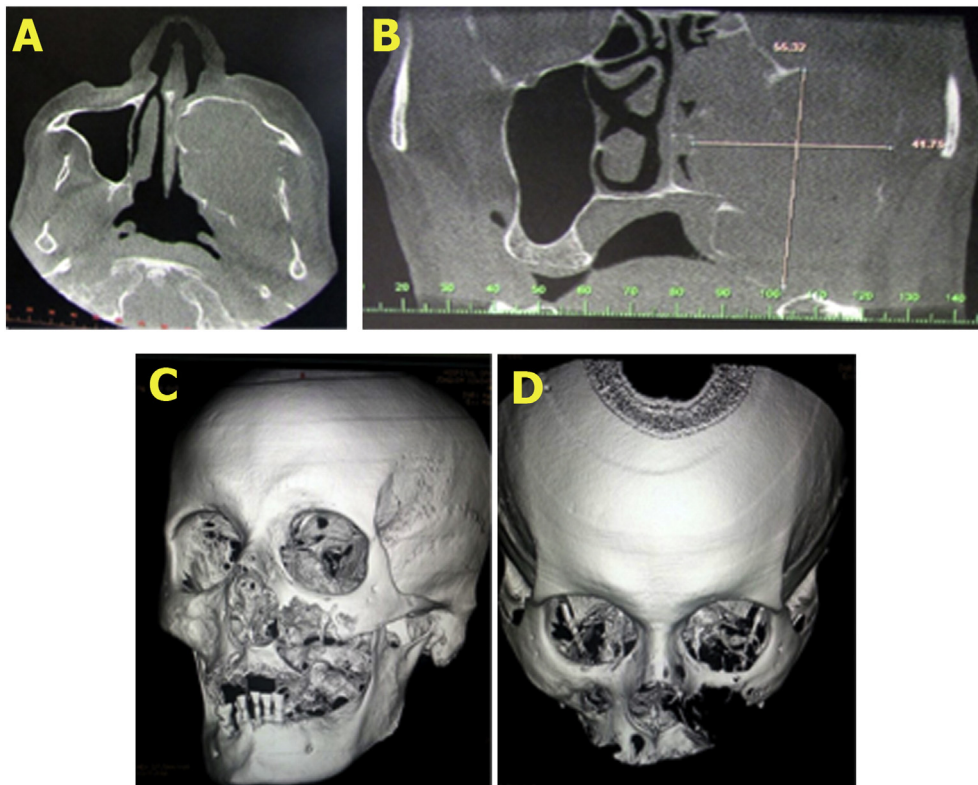


Fig. 2. Initial exams. Axial and coronal CBCT scans showing bone destruction of part of the left wall of the nasal cavity and compromise of the floor of the left orbit; below, three-dimensional reconstruction of the case showing the involvement of the facial bone.

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