



Immediate placement of denture over undiagnosed ameloblastoma

Instalação de prótese total imediata sobre ameloblastoma não diagnosticado

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ABSTRACT

Ameloblastoma is an odontogenic tumor that affects the bones of the jaw, often affecting posterior region of the mandible. It is a benign neoplasm and is frequently associated to an unerupted tooth. The purpose of this article is to report a case of failure in making an immediate full denture in a patient that had an ameloblastoma. A female patient aged 67 years complained of a hard swelling in the right mandible at the premolar region, that she noted after teeth extraction and confecction of an immediate denture. Intraoral examination showed buccal and lingual cortical plate expansion and radiograph examination showed multilocular radiolucency with a well-defined margin. Aspiration was nonproductive and the provisional diagnosis was ameloblastoma. An incisional biopsy was performed and the histopathological report was conclusive of an acanthomatous ameloblastoma. The patient was sent for surgical excision of the lesion and after three years, the patient returned reporting that she was operated elsewhere in the past year and had an unsuccessful bone graft. She was sent to a prosthodontist to make a complete denture. In the present case the ameloblastoma was diagnosed only after the teeth extraction and immediate denture.

KEYWORDS

Ameloblastoma; Diagnosis; Mandibular neoplasms; Odontogenic tumors.

RESUMO

O ameloblastoma é um tumor odontogênico que afeta os ossos maxilares, geralmente a região posterior de mandíbula. É uma neoplasia benigna frequentemente associada a um dente não irrompido. O objetivo deste artigo é relatar um caso de prótese total imediata confeccionada para uma paciente com ameloblastoma na região anterior da mandíbula. Paciente do sexo feminino, 67 anos, queixou-se de aumento de volume na região de pré-molares inferiores do lado direito após extração dentária e confecção de prótese total imediata. Ao exame clínico intrabucal foi observada expansão da cortical vestibular e lingual e o exame radiográfico revelou radiolucência multilocular com margem bem definida. A punção aspirativa não foi produtiva e o diagnóstico provisório foi de ameloblastoma. Foi realizada biópsia incisional e o laudo histopatológico foi conclusivo para ameloblastoma acantomatoso. A paciente foi encaminhada para ressecção cirúrgica da lesão e não retornou. Depois de três anos procurou atendimento e relatou que tinha sido submetida a cirurgia com colocação de enxerto ósseo para implante sem sucesso. O enxerto ósseo foi perdido e a paciente necessitava de nova prótese total. Ela foi encaminhada a um protesista. No presente caso, o diagnóstico de ameloblastoma foi feito somente após a instalação da prótese total imediata, quando a paciente notou aumento de volume.

PALAVRAS-CHAVE

Ameloblastoma; Diagnóstico; Neoplasias mandibulares; Tumores odontogênicos.

INTRODUCTION

The term ameloblastoma was first used in 1930 and describes an odontogenic tumor with conformation of multiple strands and interconnected cell blades [1]. It is a rare benign neoplasm of odontogenic epithelium, accounting for approximately 1% of all tumors and cysts of the mandible and maxilla, found between the fourth and fifth decade of life [2,3].

The World Health Organization (WHO) classifies this neoplasm as a tumor derived from an odontogenic epithelium with absence of ectomesenchyme. Although its etiology is unknown, it is believed that it originates from remaining of dental lamina [2].

Clinically, it presents as a tumor of slow and asymptomatic growth with few symptoms in the early stages. Despite being a benign lesion, ameloblastoma has an invasive behavior and high recurrence rate if not properly treated. It has no gender predilection [2].

Ameloblastoma affects the bones of the maxillomandibular complex, mostly affecting the mandible and rarely affecting the maxilla. Usually occurs in the posterior mandible, and may be associated with an impacted tooth. It is the odontogenic tumor of greater clinical significance and its extra-osseous occurrence is quite exceptional [2].

Radiographically, presents as a unilocular or multilocular radiolucency with bony septa that may resemble a soap-bubble or honeycomb appearance. There may be root resorption and radiographic differential diagnosis includes a variety of odontogenic cysts and tumors [2].

Histologically, ameloblastoma is classified as follicular, plexiform, desmoplastic, granular, basal and acanthomatous [4]. The acanthomatous ameloblastoma is more commonly found in mandible than maxilla, in the molar region [5]. In young patients, it is usually associated with unerupted teeth

[6]. It is necessary to follow patients because approximately 50% of all recurrences occur in the first five years of surgical excision [2,7].

The treatment of choice when the lesion is located intraosseous includes since a simple enucleation followed by curettage until block resection with a safety margin [8]. Extra-osseous lesions are treated with local conservative excision [2].

The purpose of this article is to report a case of an immediate full denture made for a patient that had a nondiagnosed ameloblastoma and its delayed diagnosis contributed to a difficult rehabilitation.

CASE REPORT

A 67-year-old female white patient came to the Oral Medicine clinic complaining of a swelling in the mandibular right lower quadrant (Figure 1).

The patient reported that she was submitted to a dental extraction of six elements in this region about two weeks before, and received an immediate denture. After the surgery she had an intense hemorrhage followed by significant hematoma. She also reported that when she returned to the dentist to perform the postoperative procedure in the following week, the dentist noted the presence of an expansion in the region, near the midline. Then she was sent to the Oral Medicine Clinic. Patient's general health was in good condition and medical history did not present relevant data related to the complaint.

On clinical examination it was observed the presence of an asymptomatic lesion, with buccal and lingual expansion with 2mm on each side, hard consistency on palpation, located on the right side of the mandible, in the premolars region. In the panoramic radiographic examination, it was observed a unilocular radiolucent lesion, and occlusal radiograph showed a multilocular lesion with expansion of the buccal bone plate (Figure 2). Aspiration was nonproductive. An incisional biopsy was performed and the material was

sent to the laboratory of Oral Pathology with an initial hypothesis of ameloblastoma.

Histopathological examination revealed fragments of mucosa showing a benign odontogenic epithelial neoplasm in its depth. The odontogenic epithelium showed follicles of varying sizes delimited by columnar or cubical cells, similar to ameloblasts, which surrounded epithelial cells loosely arranged. Several of these islands had squamous metaplasia of central cells and occasionally cystic degeneration (Figure 3). The final diagnosis was conclusive of acanthomatous ameloblastoma.

The patient was referred to surgical resection of the lesion and she did not return.

The patient returned three years later and reported that she had been submitted to surgery with bone grafting for dental implant placement without success (Figure 4). The histopathological analysis of the surgical lesion confirmed the previous diagnosis. New complete dentures were necessary for rehabilitation. Follow-up schedule consisted of clinical and radiographic evaluation every six months with no signs of recurrence.



Figure 1 - Initial clinical aspect with buccal and lingual cortical expansion in the lower premolars region.



Figure 2 - Initial occlusal radiography showed a multilocular lesion with expansion of the buccal bone plate.

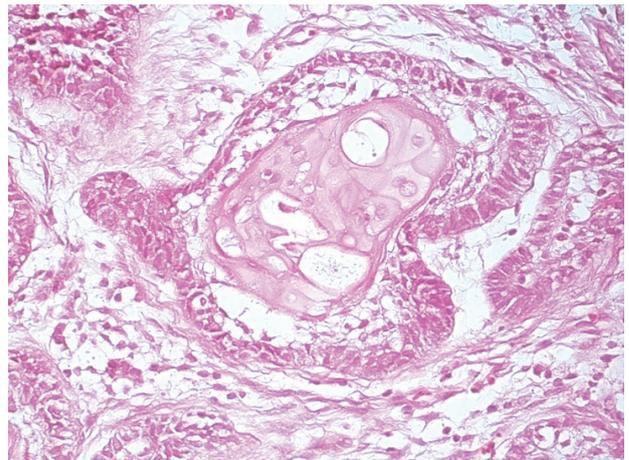


Figure 3 - Histopathological - presence of follicle exhibiting central squamous metaplasia and cystic degeneration (Hematoxylin and eosin, 400x).



Figure 4 - Panoramic radiography after 3 years of the diagnosis.

DISCUSSION

Ameloblastoma is a benign neoplasm of odontogenic epithelium that shows slow and continuous growth. It is locally aggressive and rarely undergoes malignant transformation. It has a large histological variety, where certain types are characterized by a high recurrence rate [9]. Its behavior is infiltrative, capable of destroying both the bone and adjacent soft tissue [10]. Initially, two histopathological forms were known: plexiform and follicular [11]. However, in the latest WHO classification (2017), 4 more rare histological types were included: acanthomatous, granular, basaloid and desmoplastic [2].

As for the prognosis, it is necessary a periodic monitoring of the patient since approximately 50% of all recurrences occur within the first five years after surgical excision. The patients has to be monitored for 25 years, with no signs of recurrence [2].

The initial hypothesis was odontogenic cyst due to clinical and radiographic characteristics. Radiographically, the lesion observed was consistent with the diagnosis of residual cyst since it was a unilocular lesion that is suggestive in edentulous patients, but the hypothesis was discarded due to occlusal radiograph, which showed the presence of multiloculations in the expansion of the buccal bone plate. The residual cyst is a very common injury in edentulous ridges, presenting as well-defined unilocular radiolucent area that may present cortical bone expansion. However, the residual cyst shows a predominance of males, which differs from the present case of a female patient. It also commonly presents predilection for maxilla. In this type of cyst, radiopaque structures can be found in the inside, by dystrophic calcification, but are quite rare [12]. Besides the inflammatory radicular cyst, others odontogenic lesions could be considered in the differential diagnosis, since they are osteolytic lesions that usually involve the jaw and each of these lesions have different clinical behavior, including the botryoid odontogenic cyst (BOC), the glandular odontogenic cyst (GOC), the odontogenic keratocyst (OKC) and the calcifying odontogenic cyst (COC) [13].

The BOC is an injury with a multicystic growth pattern that may have multilocular radiographic appearance, found mainly in the

mandible [2]. According to Farina et al. [14], shows a slight predominance for women aged 40-50 years, in accordance with the present case report, however the report of its occurrence in edentulous ridges is rare. Uçok et al. [15] also reported that the risk of recurrence of BOC resembles to the OKC.

The GOC is a rare odontogenic cyst, with a slight preference for men over 40 years and anterior region of the mandible. It can present different clinical and radiographic findings, so the histopathological analysis is extremely important [16]. Although they may also present varied microscopic features, GOC usually presents a squamous epithelial lining with cuboidal cells, mucous cells, ciliated cells and / or clear cells and duct-like structures may be seen [17].

The hypothesis of OKC, however was not considered because the injury occurred in the anterior region of the jaw in a woman, while the OKC has a predilection for males and occurs mainly in the second and third decades of life, most commonly located in the posterior portion of the mandible [18]. Despite radiographically present itself as multilocular radiolucent lesions with well-defined margins, the lesion had cortical bulging, which does not occur often in the OKC [2].

Another odontogenic cyst that has similar characteristics is the COC, which can also present radiographically as a unilocular or multilocular well-defined radiolucent areas, but in this type of lesion radiopaque areas are commonly found inside, with varying sizes and densities [19], which was not found in this case.

In this case, the ameloblastoma was not diagnosed previously a tooth extraction and immediate dentures. Early diagnosis of this type of injury has fundamental importance, not only in order to minimize the functional and esthetic sequelae to the orofacial system, but for the prevention of recurrence of the lesion and the control of its potential damages. Due to its aggressive and invasive nature, in many cases reconstructions are necessary, seeking not only to maintain the esthetic character as a satisfactory functional outcome that preserves its form, function and strength for future prosthetic rehabilitation when is possible [10,20].

An immediate denture is useful in restoring edentulous patients, but several factors should be considered to achieve the success of its installation. There is a possibility of mucosal lesions caused by dentures, especially in patients with predisposing factors, such as diabetes [21]. Besides that, in patients who will receive prosthesis, it is essential to have previous radiographic examination to discard possible intra-osseous lesions.

CONCLUSION

From what has been observed, there is a clear need to investigate the structures that will receive an immediate full denture, avoiding the late diagnosis of lesions that preclude the rehabilitation process.

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