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Mandibular Ameloblastic fibroma in a Pediatric Patient: Case Report

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Abstract— *Ameloblastic fibroma is an unusual, benign, mixed, odontogenic tumor, usually asymptomatic, with prevalence in the first two decades of life, posterior region of the mandible. Because it is silent, it is usually discovered by routine imaging exams and requires a surgical approach for diagnosis and treatment, as they have characteristics similar to other tumors and cysts, in addition to having the potential to expand, reabsorbing bone and dental tissue. Treatment is widely discussed between a conservative and radical approach, and the choice must be made based on a thorough analysis of the lesion, as it may recur. Based on this, the present study aims to present a case with 2 years of follow-up of this rare pathology with enucleation and curettage of the region of the right mandibular angle and removal of tooth 47 germ from a 6-year-old child.Conservative treatment of ameloblastic fibroma in young patients presents itself as an effective option, since it has several advantages such as reduced morbidity and favors rehabilitation in an aesthetic and functional way.*

***Keywords*— Odontogenic tumors; Fibroma; Surgery.**

I. INTRODUCTION

Ameloblastic fibroma is classified as a true mixed tumor, involving neoplastic characteristics in epithelial and mesenchymal tissue[1,2]. It is a rare, benign and slow-growing pathology responsible for approximately 2.5% of odontogenic tumors[3]. Epidemiology shows that this tumor occurs in the first two decades of life, in addition to having preference for the areas of lower molars and premolars and posterior region of the mandible[2,3,4].

Clinically, minor lesions are asymptomatic, however, in situations of large extensions, the gnathium bones may present an increase in volume[1,2,4]. When considering radiographic examinations, ameloblastic fibroma presents itself as a well-circumscribed multilocular or unilocular radiolucent area and delimited by a sclerotic border, and is generally associated with unerupted dental elements[2-5].

Ameloblastic fibroma shares histological, radiographic and clinical aspects that are compatible with other tumors, such as ameloblastoma, odontoma, fibro-odontoma and ameloblastic that could be identified as diagnostic hypotheses and represent a challenge for diagnosis and therapeutic management[1,4].

The treatment of Ameloblastic Fibroma can vary from conservative to radical depending on the extent and aggressiveness of the lesion. Based on the importance of understanding the peculiarities surrounding the therapeutic processes of the aforementioned pathology, the present study aims to report a case of Ameloblastic Fibroma in the body and mandibular angle in a 6-year-old patient.

CASE REPORT

Pediatric female patient, 06 years old, was referred to the specialist in oral maxillofacial surgery accompanied by the person in charge who reported radiographic changes identified by the orthodontist through an initial panoramic radiography for orthodontic treatment.

Imaging examination revealed a circumscribed unilocular radiolucent lesion delimited by a radiopaque halo extending through the region of the right mandibular angle and associated with the distal element 46 and the 47 element not erupted near the basal cortex (Figure 1).

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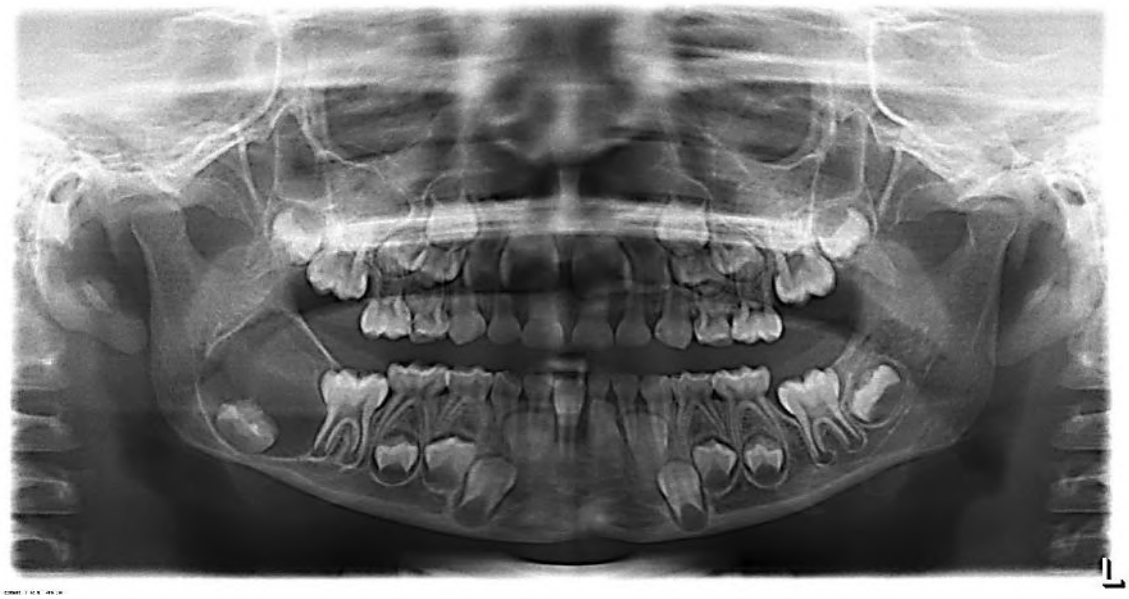

Fig.1:Initial radiograph showing an extensive radiolucent lesion in the region of the right mandibular angle.

Anamnesis found ASA I patient without systemic compromises that could interfere with surgical treatment. In extraoral analysis, there was no facial asymmetry and swelling, while intraoral clinical examination was also within the normal range, with no expansion of the cortical or edema, and normal mucosa color, in addition to not responding with painful symptoms to semiotechnical maneuvers.

In view of the imaging and clinical findings, the presumptive diagnostic hypothesis of dentigerous cyst was potentially considered. After prior consent from the treatment plan, complementary exams and absence of systemic conditions, the surgical procedure was performed.

The patient was submitted to general anesthesia and the lesion was removed by enucleation via intraoral, and an incision was made over the alveolar ridge distal to the first molar. There was already a bone window and it was enlarged for better visualization and removal of the lesion.

The sample sent to the laboratory for anatomopathological analysis consisted of multiple gelatinous fragments with a diameter of 4.7x3.7x0.4cm together with the dental fragment. Histological analysis revealed biphasic cell proliferation and epithelial component with blocks of odontogenic epithelium composed of basaloid and elongated cells, taking the form of small blocks and cords, with peripheral palisade permeating the loose and hypocellular mesenchymal tissue. Mesenchymal cells showed elongated nuclei without atypia, in addition to the absence of mitotic and necrotic figures. The loose connective tissue showed mild fibrosis with a slight mononuclear infiltrate and dental structures adjacent to the lesion. In this sense, the characteristics investigated confirmed the diagnosis of ameloblastic fibroma.

The case was continued and the control radiography 3 months after surgery revealed diffuse radiopacity in the operated area (Figure 2). The next visit was scheduled at an interval of 3 more months, presenting an imaging aspect with greater radiopacity than the previous one (Figure 3).

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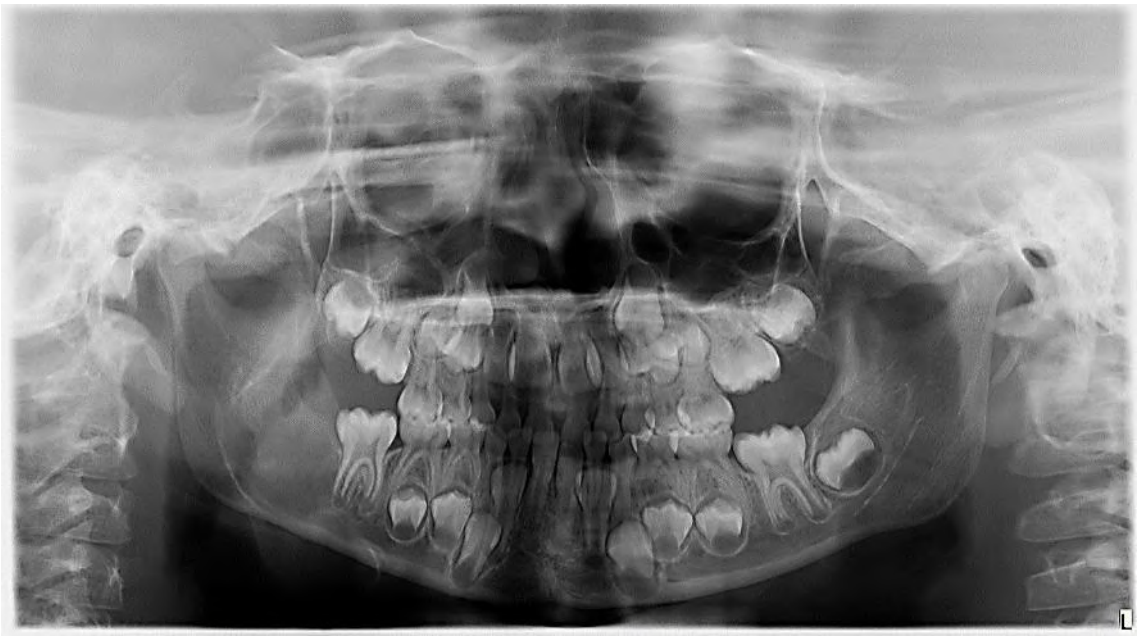

Fig.2: Panoramic radiograph 3 months after the enucleation and curettage of the lesion.

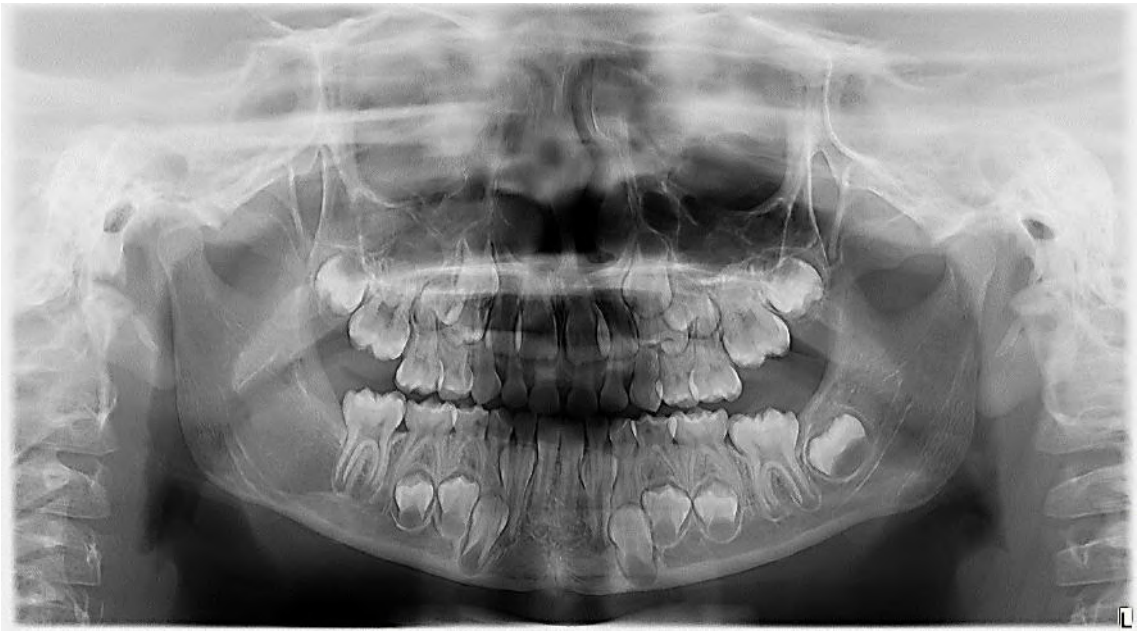

Fig.3: Panoramic radiograph 6 months after the enucleation and curettage of the lesion.

The patient returned to the office 1 year and 3 months after surgery and the panoramic radiography showed a radiopaque area suggestive of good bone formation (Figure 4). Finally, the imaging examination corresponding to 27 months after the surgery showed bone formation with no suggestion of recurrence of the lesion (Figure 5).

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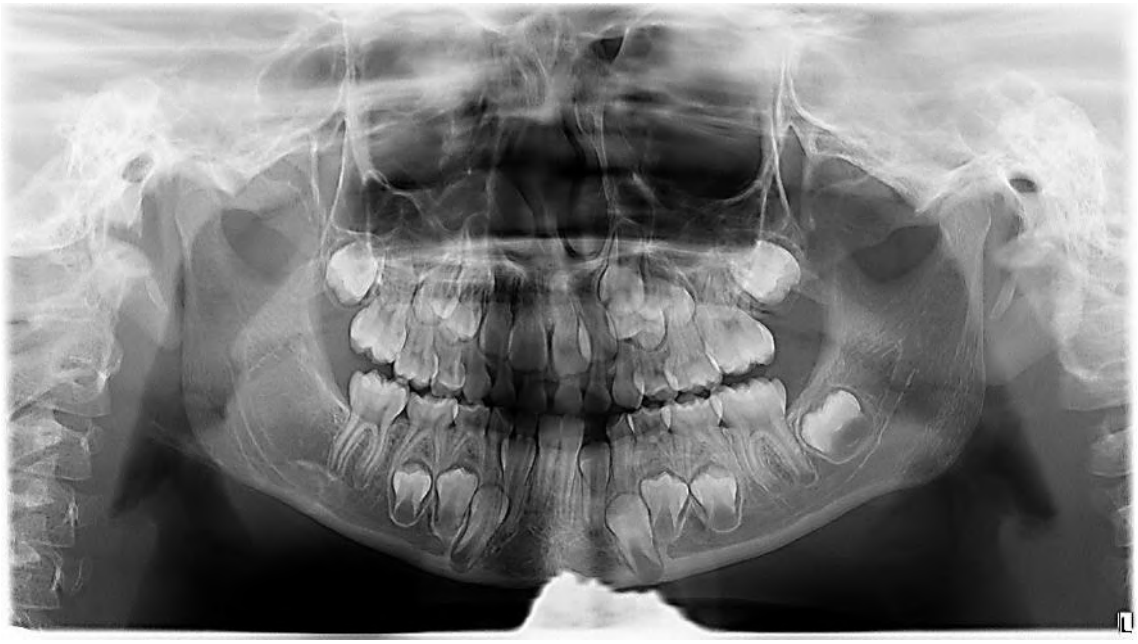

Fig.4: Panoramic radiograph 1 year and 3 months after the enucleation and curettage of the lesion.

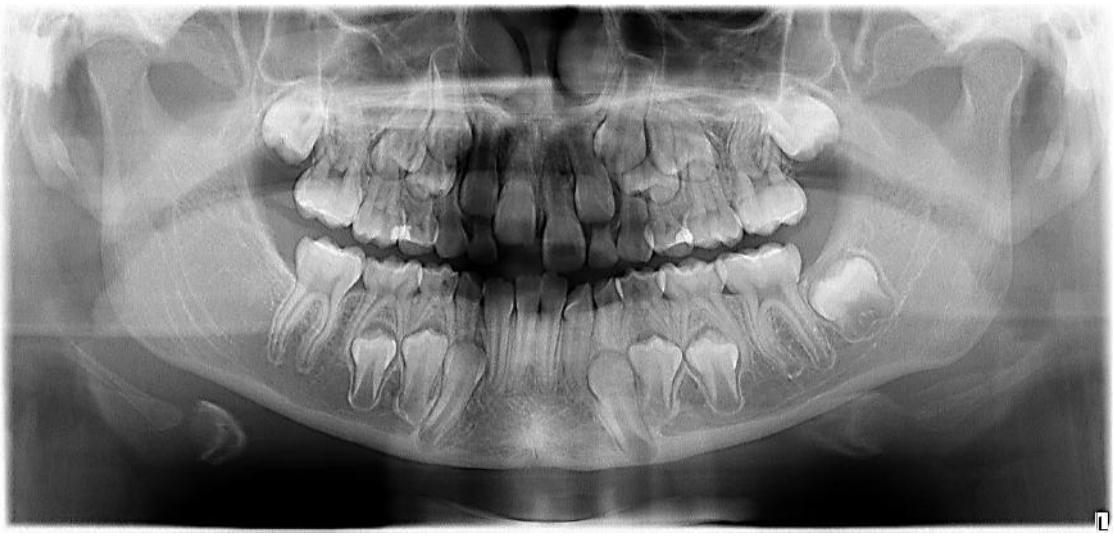

Fig.5: Panoramic radiograph 2 years and 3 months after enucleation and curettage of the lesion.

II. DISCUSSION

Ameloblastic fibroma (AF) was initially described by Kruse in 1892, later classified as benign neoplasia by Thoma and Goldman in 1946 and years later, in 1992 it was inserted in mixed neoplasms by the World Health Organization.[6,7]

It is a true neoplasm with odontogenic origin, which is considered rare because it encompasses percentages of 1.5% to 4.5% of all tumors.[6-9] It has a higher incidence in the first two decades of life, with some authors measuring that approximately 75% of cases are diagnosed at this stage[6-9].

Some research indicates that there is a strong predilection for the male gender, with a proportion of 2 cases in men to one case in women. [1,6,7,10] Such avidity goes against other studies that deny that there is a prevalence in genders[5]. Still from an epidemiological perspective, studies indicate the mandible as the most common site, being affected in 80% of cases and in 75% involving an unerupted dental element. [6,7,8] Thus, the characteristics related to the report presented are observed, as it involves a 6-year-old child with a lesion in the posterior region of the mandible.

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The AF is variable in relation to the radiographic aspect, the authors justify unilocular radiolucency for smaller lesions, which in most cases are asymptomatic.[4,6] Therefore, the multilocular characteristic is associated with larger lesions that generally present painful symptoms and clinical signs, as swelling and facial asymmetry.[4,6] Furthermore, authors add that the multilocular aspect is the most common, representing 75% of the lesions, which can cause root resorption and cortical perforation.[7,10]

The differential diagnosis of AF includes other odontogenic cysts and tumors, such as dentinous cyst, keratocyst, ameloblastoma, myxoma. Although they have overlapping characteristics, it is essential to perform a biopsy to obtain the correct diagnosis.[6,11] For this, histopathological analysis is essential, and the AF report comes from microscopic characteristics with epithelial and neoplastic connective components, in addition to the fact that the tissue epithelial is similar to the embryonic dental lamina with the shape of islands or strands of odontogenic epithelium with cell layers in the form of cubes or small nests with scarce cytoplasm, while the largest ones have similarities with reticular tissue[7].

Treatment is widely debated, and some of the literature indicates that it should be chosen according to the size of the lesion. Thus, some authors indicate a conservative approach with enucleation and curettage of the adjacent bone for minor injuries and radical procedure with marginal or segmental resection for large injuries[6,9], while others argue that radical treatment should be reserved for cases of recurrence.1 Finally, it is essential that the monitoring is done effectively, as it is pointed out that the AF recurrence rate can reach 45% .[6]

III. CONCLUSION

Conservative treatment of AF in young patients presents itself as an effective option, since it has several advantages such as reduced morbidity and favors rehabilitation in an aesthetic and functional way.

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