INTERNATIONAL SEVEN JOURNAL
OF MULTIDISCIPLINARY
ISSN: 2764-9547

DIAGNOSIS OF ODONTOGENIC MYXOMA

DIAGNÓSTICO DO MIXOMA ODONTOGÊNICO

DIAGNÓSTICO DEL MIXOMA ODONTOGÉNICO

https://doi.org/10.56238/isevmjv5n2-035

Receipt of originals: 03/14/2026 **Acceptance for publication:** 04/14/2026

Marina Paraluppi[1], Ruan Alencar de Albuquerque[2], Emilly Lais Rufino Ramos[3], Giulia Dias Ribeiro[4]

ABSTRACT

Odontogenic myxoma (OM) is a rare benign neoplasm of ectomesenchymal origin (or mesenchymal origin associated with the dental apparatus), locally aggressive and invasive. It preferentially affects the bones of the maxilla and mandible in young adults, with a slight predominance in females. OM initially presents as a slow-growing and asymptomatic lesion, but it may exhibit an infiltrative behavior that results in bone destruction, cortical expansion, and facial deformity. Despite its benign histological nature, the lesion has significant destructive potential and a high recurrence rate when treated conservatively. The definitive diagnosis is challenging due to the absence of pathognomonic signs and the similarity of its clinical and radiographic features to other osteolytic or odontogenic benign and malignant lesions, requiring careful integration of histopathological data. Recent studies indicate that factors such as radiographic pattern, tumor extent, histological characteristics, and biological behavior are directly related to prognosis and recurrence risk; therefore, early identification and integrated analysis of clinical, imaging, and histopathological data are essential for appropriate therapeutic planning. This article, therefore, presents an updated narrative review on the diagnosis of odontogenic myxoma, with emphasis on clinical presentations, radiographic findings, main differential diagnoses, the role of immunohistochemistry, and diagnostic implications in defining surgical extent and recurrence risk, aiming to review the main diagnostic criteria, indicators of tumor aggressiveness, advanced imaging methods, and relevant histological aspects for treatment definition and clinical follow-up.

Keywords: Odontogenic Myxoma. Diagnosis. Odontogenic Tumors. Dental Radiology. Recurrence.

RESUMO

O mixoma odontogênico (MO) é uma neoplasia benigna rara de origem ectomesenquimal (ou mesenquimal associada ao aparelho dentário), localmente agressiva e invasiva. Acometendo preferencialmente os ossos da maxila e mandíbula de adultos jovens, com discreta predominância pelo sexo feminino, o MO se manifesta inicialmente com crescimento lento e assintomático, mas pode apresentar

[1] Graduated in Dentistry. Specialist in Oral and Maxillofacial Surgery and Traumatology. Universidade de São Paulo (USP).
[2] Dental Student. Faculdade Pernambucana de Saúde (FPS).
[3] Dental Student. Universidade de Pernambuco (UPE).
[4] Master's Student in Clinical Dentistry. Universidade do Grande Rio (UNIGRANRIO).

comportamento infiltrativo que resulta em destruição óssea, expansão de corticais e deformidade facial. Apesar de sua natureza histológica benigna, a lesão tem potencial destrutivo significativo e elevada taxa de recidiva quando tratada de forma conservadora. O diagnóstico definitivo é desafiador devido à ausência de sinais patognomônicos e à semelhança de seu aspecto clínico e radiográfico com outras lesões osteolíticas ou odontogênicas benignas e malignas, exigindo a integração criteriosa de dados histopatológicos. Estudos recentes indicam que fatores como padrão radiográfico, extensão tumoral, características histológicas e comportamento biológico estão diretamente relacionados ao prognóstico e ao risco de recorrência; dessa forma, a identificação precoce e a análise integrada dos dados clínicos, imaginológicos e histopatológicos são fundamentais para o planejamento terapêutico adequado. Este artigo, portanto, apresenta uma revisão narrativa atualizada sobre o diagnóstico do mixoma odontogênico, com ênfase nas apresentações clínicas, achados radiográficos, principais diagnósticos diferenciais, papel da imunohistoquímica e implicações diagnósticas na definição da extensão cirúrgica e no risco de recidiva, objetivando revisar os principais critérios diagnósticos, indicadores de agressividade tumoral, métodos de imagem avançados e aspectos histológicos relevantes para a definição do tratamento e acompanhamento clínico.

Palavras-chave: Mixoma Odontogênico. Diagnóstico. Tumores Odontogênicos. Radiologia Odontológica. Recidiva.

RESUMEN

El mixoma odontogénico (MO) es una neoplasia benigna rara de origen ectomesenquimal (o mesenquimal asociada al aparato dentario), localmente agresiva e invasiva. Afecta preferentemente los huesos del maxilar y la mandíbula en adultos jóvenes, con una ligera predominancia en el sexo femenino. El MO se manifiesta inicialmente con un crecimiento lento y asintomático, pero puede presentar un comportamiento infiltrativo que resulta en destrucción ósea, expansión cortical y deformidad facial. A pesar de su naturaleza histológica benigna, la lesión tiene un potencial destructivo significativo y una alta tasa de recidiva cuando se trata de forma conservadora. El diagnóstico definitivo es desafiante debido a la ausencia de signos patognomónicos y a la similitud de sus características clínicas y radiográficas con otras lesiones osteolíticas u odontogénicas benignas y malignas, lo que exige una cuidadosa integración de los datos histopatológicos. Estudios recientes indican que factores como el patrón radiográfico, la extensión tumoral, las características histológicas y el comportamiento biológico están directamente relacionados con el pronóstico y el riesgo de recurrencia; por lo tanto, la identificación temprana y el análisis integrado de los datos clínicos, de imagen e histopatológicos son fundamentales para una adecuada planificación terapéutica. Este artículo, por tanto, presenta una revisión narrativa actualizada sobre el diagnóstico del mixoma odontogénico, con énfasis en las presentaciones clínicas, los hallazgos radiográficos, los principales diagnósticos diferenciales, el papel de la inmunohistoquímica y las implicaciones diagnósticas en la definición de la extensión quirúrgica y el riesgo de recidiva, con el objetivo de revisar los principales criterios diagnósticos, indicadores de agresividad tumoral, métodos avanzados de imagen y aspectos histológicos relevantes para la definición del tratamiento y el seguimiento clínico.

Palabras clave: Mixoma Odontogénico. Diagnóstico. Tumores Odontogénicos. Radiología Odontológica. Recidiva.

1 INTRODUCTION

Odontogenic Myxoma (OM) is a benign, but locally aggressive and invasive neoplasm originating from odontogenic ectomesenchyma — specifically the dental papilla, follicle, or periodontal ligament (Khalil et al., 2022; Forte et al., 2025). It represents the second most common odontogenic tumor in several populations, second only to ameloblastoma, and primarily affects young adults between the second and third decades of life, with a slight predominance in females, although specific series show a similar distribution between the sexes (Martínez-Mata et al., 2008; Titinchi et al., 2016) The mandible is usually more affected than the maxilla, especially in its posterior region; however, recent studies have shown a predominance of maxilla in some populations (Noffke et al., 2007; Ngham et al., 2022; Osman et al., 2024). In children, OM is uncommon, accounting for about 8.5–11.6% of odontogenic tumors in this age group and often showing more aggressive behavior (Forte et al., 2025; Gau-Okroglic & Milicevic, 2021).

Clinically, odontogenic myxoma has an insidious evolution, and is often asymptomatic in its early stages, which contributes to its late diagnosis (Martins et al., 2021; Khalil et al., 2022). In most cases, the lesion is identified incidentally during routine radiographic examinations, especially in control dental evaluations, due to the absence of painful symptomatology or evident inflammatory signs (Ghazali et al., 2021). This silent behavior is related to their slow growth and ability to expand intraosseously without immediate impairment of nerve structures (Ngham et al., 2022).

As the lesion progresses, clinical manifestations become more evident, including painless bone volume enlargement, progressive facial asymmetry, and expansion of the cortical bones (Osman et al., 2021). Tooth displacement is a frequent finding, and may occur without significant root resorption, which helps in differentiating it from other more aggressive odontogenic neoplasms (Martins et al., 2021). Occlusal changes can also be observed as a result of tooth movement and lesion expansion, directly impacting the patient's masticatory function (Ghazali et al., 2021). In more advanced stages, tumor growth can lead to marked facial deformity, significant aesthetic impairment, and, in more extensive cases, invasion of adjacent structures such as the maxillary sinus and nasal cavity (Ngham et al., 2022).

From a biological point of view, the absence of a fibrous capsule is one of the main characteristics of odontogenic myxoma and is directly related to its infiltrative behavior

(Khalil et al., 2022). Unlike encapsulated lesions, which have well-defined borders, myxoma infiltrates between the bony trabeculae through microscopic cell extensions, which makes it difficult to precisely delimit its margins (Martins et al., 2021). This infiltration is favored by the composition of the tumor stroma, rich in mucopolysaccharide substances, which give a gelatinous consistency to the lesion and facilitate its dissemination inside the bone (Osman et al., 2021).

This infiltrative characteristic explains, to a large extent, the difficulty of complete removal of the lesion during surgical treatment, especially when conservative approaches are employed (Pogrel, 2004). As a consequence, there is a significant recurrence rate described in the literature, particularly in cases treated by simple curettage or enucleation without adequate safety margins (Boffano et al., 2011; Martins et al., 2021). Thus, understanding the biological behavior of the odontogenic myxoma is essential for adequate therapeutic planning, aiming not only at removing the lesion, but also at reducing the risk of recurrence and preserving the patient's oral functions and facial aesthetics (Ghazali et al., 2021).

Although it is histologically benign and slow-growing, OM is characterized by an infiltrative behavior that causes the destruction of the medullary bone and the expansion of the bone corticals, often resulting in facial deformities and tooth displacement (Gau-Okroglic & Milicevic, 2021; Ngham et al., 2022). Early diagnosis is the greatest clinical challenge, as the lesion is usually asymptomatic in its early stages, often being discovered in routine radiographic examinations or when it has already reached considerable dimensions (Khalil et al., 2022; Ngham et al., 2022). The absence of a universally accepted diagnostic protocol reinforces the need for an integrated approach between the correlation of clinical history, physical examination, conventional and advanced imaging methods (radiographs, CT, CBCT, MRI), and histopathological examination, with the support of immunohistochemistry (Martins et al., 2021; Dotta et al., 2020). The absence of a defined tumor capsule facilitates infiltration into adjacent tissues, which increases the risk of recurrence and requires a rigorous diagnostic protocol that integrates clinical, radiological, and histopathological findings (Martins et al., 2021; Gau-Okroglic & Milicevic, 2021).

Therefore, this article aims to critically review the clinical, radiographic, and histopathological aspects of odontogenic myxoma, focusing on criteria that help in

diagnostic suspicion and distinction from other osteolytic lesions of the jaws, in addition to discussing how such findings influence surgical planning and long-term follow-up.

2 METHODOLOGY

The present study is characterized as a bibliographic review of a narrative nature, structured with the objective of synthesizing contemporary scientific evidence on the diagnosis of odontogenic myxoma. Data collection was carried out by prospecting in the PubMed and Google Scholar databases, using the descriptors "Odontogenic myxoma" and "Diagnosis", integrated according to the terminology of Medical Subject Headings (MeSH). The selection included articles published between 2000 and 2025, available in full in English, Portuguese, Spanish or French (translated). Case studies, radiographic analyses, and literature reviews addressing clinical manifestations, advanced imaging techniques, and histopathological differentiation were included. Studies focused exclusively on surgical techniques without diagnostic emphasis or publications with low methodological rigor were excluded. The information extracted was organized and presented in a descriptive way.

3 RESULTS

The diagnosis of Odontogenic Myxoma is based on the triad: clinical, imaging and histopathology. Clinically, the most common manifestation is painless facial enlargement, with slow evolution. In advanced cases, there may be tooth mobility, root resorption, and paresthesia, although the latter is rare (Osman et al., 2021; Khalil et al., 2022). In pediatric patients, OM is extremely rare and tends to be more aggressive due to the child's potential for bone growth, and is often associated with unerupted teeth (Forte et al., 2025; Gau-Okroglic & Milicevic, 2021).

In the field of imaging, conventional radiography reveals radiolucent lesions that can be unilocular (more common in children or small lesions) or multilocular. The multilocular pattern presents with classic appearances described as "soap bubbles", "honeycomb" or "tennis racket", the latter being characterized by straight and thin bone septa (Ghazali et al., 2021; Ngham et al., 2022). Computed Tomography (CT) is superior for assessing expansion and perforation of the bone cortical, as well as invasion of adjacent structures such as the maxillary sinus (Ngham et al., 2022; Gau-Okroglic & Milicevic, 2021). Magnetic Resonance Imaging (MRI) also plays a vital role, presenting

hyposignal on T1-weighted and hypersignal labeled on T2-weighted sequence, reflecting the high mucopolysaccharide content of myxomatous stroma (Ngham et al., 2022).

Definitive confirmation is histopathological. OM is characterized by a proliferation of loosely distributed spindle-shape, stellar, or triangular cells in an abundant, richly vascularized myxoid stroma. The presence of odontogenic epithelium islands is rare and is not necessary for diagnosis (Khalil et al., 2022; Martins et al., 2021). The results of long-term follow-up suggest that the thorough evaluation of tumor margins via imaging is the factor that most influences the success of the biopsy and the subsequent intervention, given the non-encapsulated character of the lesion (Martins et al., 2021).

4 DISCUSSION

The discussion on the diagnosis of odontogenic myxoma (OM) highlights the complexity of its differential diagnosis, especially due to the great variability of its clinical and radiological characteristics. Radiolucent multilocular presentation, often described as "soap bubbles", "honeycombs", or "tennis rackets", can lead to confusion with other odontogenic lesions, such as ameloblastoma, odontogenic keratocyst, and central giant cell granuloma (MacDonald-Jankowski, 2004; Ngham et al., 2022; Khalil et al., 2022). In addition, other entities such as central hemangioma and aneurysmal bone cyst should also be considered in the differential diagnosis, especially in extensive or atypical lesions.

Despite being histologically benign, OM has a locally aggressive behavior, with the capacity for bone infiltration, tooth displacement and, in some cases, cortical perforation and extension to adjacent soft tissues (Lo Muzio et al., 1996). This characteristic, associated with the absence of a capsule, makes it difficult to accurately delimit the lesion and contributes to the high rate of recurrence, particularly when treated conservatively (Pogrel, 2004; Martins et al., 2021). In this context, the correct distinction between OM and other lesions is key, since therapeutic management can vary significantly: while less aggressive lesions can be treated by curettage, OM often requires more extensive approaches, such as segmental resection with safety margins between 1 and 1.5 cm (Osman et al., 2021).

Imaging evaluation plays a central role in this diagnostic process. Computed tomography allows detailed analysis of bone extension, cortical integrity, and the presence of internal trabeculations, whereas magnetic resonance imaging is superior in the evaluation of soft tissue involvement, generally showing hypersignal on T2-weighted

sequences and intermediate signal intensity on T1-weighted sequences (MacDonald-Jankowski, 2004; Lo Muzio et al., 1996). Thus, the integration of these modalities is essential for both diagnosis and surgical planning.

From the histopathological point of view, the diagnosis is mainly based on morphological analysis in routine staining (hematoxylin and eosin), which shows spindle or stellate cells dispersed in a matrix rich in mucoid substance. Immunohistochemistry can be used as a complementary tool to confirm the mesenchymal origin of the lesion, although it does not replace conventional histological evaluation (Khalil et al., 2022).

In pediatric patients, the management of BM presents additional challenges. Recent studies highlight the need for an extremely accurate diagnosis, considering the functional and aesthetic impact of more aggressive surgical approaches on developing facial structures (Gau-Okroglic & Milicevic, 2021; Forte et al., 2025). In such cases, careful consideration should be given to reducing the risk of recurrence and preserving important structures such as dental germs and bone growth.

Finally, it is noteworthy that, although OM does not have metastatic potential, its infiltrative nature is associated with recurrence rates that can vary between 10% and 30%, especially after conservative treatments (Pogrel, 2004; Martins et al., 2021). Thus, prolonged clinical and radiographic follow-up is recommended, ideally for at least five years, with greater attention in the first two years after treatment, a period of greater risk of recurrence (Osman et al., 2021).

In summary, the diagnosis of odontogenic myxoma requires an integrated approach, involving clinical, radiological, and histopathological data. This joint analysis is essential to define the most appropriate therapeutic strategy and reduce the risk of recurrence, ensuring better long-term results.

The diagnosis of odontogenic myxoma represents a significant clinical challenge due to the wide variability of its clinical and radiographic manifestations, as well as the absence of specific pathognomonic features (Khalil et al., 2022; Martins et al., 2021). The similarity with other osteolytic lesions of the jaws can hinder the early identification of the pathology, especially in early stages, in which the lesion grows slowly and has asymptomatic behavior (Ngham et al., 2022). Among the main differential diagnoses are ameloblastoma, odontogenic fibroma, fibrous dysplasia, central giant cell granuloma, keratocystic odontogenic cyst, and intraosseous hemangioma, all of which have the potential to present similar radiographic patterns, such as uni- or multilocular radiolucent

areas, cortical expansion, and tooth displacement (Ghazali et al., 2021; Osman et al., 2021).

The correct distinction between these lesions is essential, as treatment and prognosis vary significantly among different pathological entities (Pogrel, 2004). For example, ameloblastoma has locally aggressive behavior and a high rate of recurrence, often requiring broader surgical resections, while lesions such as central giant cell granuloma can be managed by conservative approaches, including curettage or adjuvant therapies (Boffano et al., 2011). In this context, the correlation between clinical data, radiographic findings, and histopathological analysis becomes essential for establishing the definitive diagnosis and defining the most appropriate therapeutic strategy (Martins et al., 2021).

Another relevant aspect refers to the infiltrative behavior characteristic of odontogenic myxoma. The absence of a tumor capsule and the presence of an extracellular matrix rich in mucopolysaccharides favor the microscopic dissemination of tumor cells through adjacent bone trabeculae, making it difficult to accurately delimit the lesion during the surgical procedure (Khalil et al., 2022). This infiltrative pattern largely explains the recurrence rates described in the literature, which can vary between approximately 10% and 30%, especially when the lesion is treated by conservative methods, such as simple curettage or isolated enucleation (Martins et al., 2021; Osman et al., 2021).

Clinical studies have shown that prognostic factors such as tumor size, anatomical location, radiographic pattern, and integrity of bone corticals directly influence the biological behavior of the lesion and the risk of recurrence (Ghazali et al., 2021). Lesions larger than four centimeters, ill-defined radiographic margins, and the presence of cortical perforation tend to present more aggressive behavior and a higher probability of recurrence (Leiser et al., 2009). In addition, lesions located in the maxilla represent an additional challenge, since this region has lower bone density and proximity to important anatomical structures, such as the maxillary sinus and nasal cavity, favoring rapid tumor dissemination (Ngham et al., 2022).

Another point that deserves to be highlighted is the importance of advanced imaging methods in diagnostic evaluation and therapeutic planning. Cone-beam computed tomography allows detailed three-dimensional analysis of the extent of the lesion, making it possible to identify areas of cortical perforation, invasion of adjacent

structures, and the presence of internal trabeculations (Ghazali et al., 2021). These findings are fundamental for defining the surgical extent and reducing the risk of recurrence (Osman et al., 2021). In selected cases, magnetic resonance imaging can be used to assess soft tissue involvement and differentiate between tumor tissue and neighboring anatomical structures (Khalil et al., 2022).

In addition, long-term clinical and radiographic follow-up is considered an essential step in the management of odontogenic myxoma, due to its potential for late recurrence (Martins et al., 2021). The literature recommends periodic monitoring for a minimum period of five years, with greater frequency in the first two years after treatment, a phase in which the highest incidence of recurrences is observed (Osman et al., 2021). This continuous follow-up allows for the early detection of recurrences and contributes to the reduction of functional and aesthetic complications associated with the progression of the lesion.

From a more prognostic perspective, recent evidence indicates that the correlation between radiographic patterns and the biological behavior of odontogenic myxoma plays a fundamental role in the stratification of tumor risk. Studies show that lesions with ill-defined margins are often associated with multilocular patterns, a greater number of teeth involved, and a higher incidence of cortical perforation, indicating a more aggressive profile and potentially associated with higher recurrence rates (Ghazali et al., 2021). These findings reinforce the need for a careful evaluation of the image, not only for diagnostic purposes, but also as a prognostic tool.

In this context, cone beam computed tomography (CBCT) and conventional tomography play a fundamental role in determining the actual extent of the lesion, especially in cases involving adjacent structures, such as the maxillary sinus and nasal cavity. The literature shows that the pattern of bone expansion, the presence of internal trabeculations, and the extension to neighboring tissues are determining factors in therapeutic planning (Osman et al., 2021). In addition, magnetic resonance imaging contributes to the evaluation of the internal content of the lesion, helping to differentiate it from other neoplasms with similar behavior.

Another relevant point refers to the difficulty in establishing a standardized therapeutic protocol. Despite the consensus that treatment is primarily surgical, the choice between conservative approaches and broader resections remains controversial. Studies indicate that factors such as tumor size, location, and age of the patient should

be considered in decision-making, since extensive lesions have a higher risk of recurrence when treated conservatively (Martins et al., 2021). Even so, less invasive approaches may be indicated in selected cases, as long as they are accompanied by rigorous clinical and radiographic follow-up.

In pediatric patients, this decision becomes even more challenging, since radical procedures can compromise craniofacial growth and generate significant functional and aesthetic impacts. In these cases, the literature emphasizes the need for a balance between tumor control and preservation of developing structures, highlighting the importance of early diagnosis to avoid more aggressive interventions (Forte et al., 2025; Gau-Okroglic & Milicevic, 2021).

Finally, it is noteworthy that the absence of specific clinical and radiographic characteristics reinforces the need for an integrated diagnostic approach. Odontogenic myxoma can simulate both benign and malignant lesions, requiring joint analysis of clinical, imaging, and histopathological findings for the precise definition of the diagnosis. Thus, the integration between imaging findings and biological behavior not only improves diagnostic accuracy, but also allows for a more individualized therapeutic approach, directly impacting prognosis and reducing recurrence rates.

Early identification of the lesion is crucial to reduce the morbidity of the treatment, since late interventions often require more extensive resections and directly impact the patient's quality of life (Khalil et al., 2022; Ngham et al., 2022).

5 CONCLUSION

Clinical series and radiographic analyses show that myxoma, a rare tumor, preferentially affects young individuals, with a slight female predominance and a slow and asymptomatic growth pattern, but it is often destructive (Martínez-Mata et al., 2008; Vasconcelos et al., 2018; Ghazali et al., 2021; Forte et al., 2025; Osman et al., 2021).

From an imaging point of view, integration with CT/CBCT and MRI is essential to characterize the uni- or multilocular pattern, cortical expansion and perforation, as well as maxillary sinus involvement and extension to paranasal and infratemporal spaces (Zhang et al., 2007; Ngham et al., 2022; Ghazali et al., 2021; Gau-Okroglic & Milicevic, 2021). Larger lesions, with ill-defined borders and associated with bone perforation, tend to have a more aggressive behavior and a higher risk of recurrence. (Ghazali et al., 2021;

Kauke et al., 2018). In children, the predominance of maxillary, paranasal and sinus lesions often simulate malignant neoplasms, making early diagnosis by imaging even more challenging (Kadlub et al., 2014; Forte et al., 2025; Gau-Okroglic & Milicevic, 2021).

Understanding the histological pattern of spindle or stellate cells distributed in myxoid stroma, associated with the non-encapsulated character of the lesion, explains the difficulty in obtaining truly free surgical margins and the potential for recurrence observed (Martins et al., 2021; Saalim et al., 2019). Immunohistochemistry can help in challenging cases, helping to rule out other myofibroblastic or soft tissue neoplasms (Martínez-Mata et al., 2008; Forte et al., 2025).

There is no absolute consensus in the literature regarding the ideal extent of the surgical approach. Recurrence rates tend to be higher after simple conservative procedures — such as isolated enucleation or superficial curettage, while segmental resections or wide maxillectomy are associated with lower recurrence, but with greater functional and aesthetic morbidity (Leiser et al., 2009; Boffano et al., 2011; Osman et al., 2021; Saalim et al., 2019). More recent studies indicate that well-planned conservative approaches and adjuvant use of modified Carnoy's solution can achieve acceptable recurrence rates in smaller lesions, preserving bone structure and function, including in pediatric patients (Martins et al., 2021; Sato et al., 2019; Gopinath et al., 2015).

In summary, the diagnosis of OM should be based on clinical recognition, critical investigation of radiographic and tomographic patterns, and careful histopathological confirmation of myxomatous stroma. This approach makes it possible to distinguish this tumor from other osteolytic lesions of the jaws and provides support for the choice between conservative treatments and broader resections. In all cases, preservation and follow-up should be maintained for the first 2 to 5 years, and it is essential to detect early recurrences and minimize associated morbidity.

Odontogenic myxoma is a benign neoplasm of ectomesenchymal origin that, despite its non-malignant histological nature, presents a potentially aggressive biological behavior, characterized by slow, infiltrative growth and the ability to progressively destroy adjacent bone tissue (Khalil et al., 2022; Martins et al., 2021). This local aggressiveness is directly related to the absence of a fibrous capsule and the presence of an extracellular matrix rich in mucopolysaccharides, which favors the microscopic dissemination of tumor cells between the bone trabeculae, making it difficult to accurately delimit the lesion surgically (Ngham et al., 2022).

The diagnosis of this pathology should be established through the integration of clinical data, imaging tests, and histopathological analysis, since none of these tools alone is able to provide sufficient information for definitive diagnostic confirmation (Ghazali et al., 2021; Osman et al., 2021). In this context, clinical evaluation allows the identification of signs such as increased facial volume, tooth displacement, and facial asymmetry, while imaging tests, especially cone beam computed tomography, enable three-dimensional analysis of the extent of the lesion, the integrity of the bone corticals, and the relationship with adjacent anatomical structures (Martins et al., 2021). Diagnostic confirmation, in turn, depends on histopathological analysis, which shows the presence of spindle-shaped or stellate cells dispersed in abundant myxoid stroma, a typical characteristic of this neoplasm (Khalil et al., 2022).

The evaluation of tumor aggressiveness criteria is a fundamental aspect in the clinical management of odontogenic myxoma, since these factors are directly related to the risk of recurrence and the patient's prognosis (Osman et al., 2021). Among the main indicators of aggressiveness are the multilocular radiographic pattern, ill-defined radiographic margins, presence of cortical perforation, involvement of adjacent anatomical structures, and high tumor size, especially in lesions larger than four centimeters (Leiser et al., 2009; Ghazali et al., 2021). Clinical studies have shown that extensive or localized lesions in the maxilla have greater potential for growth and dissemination, due to the lower bone density of this region and the proximity to anatomical cavities such as the maxillary sinus and nasal cavity (Ngham et al., 2022).

In addition, the choice of treatment should consider not only the complete removal of the lesion, but also the preservation of the anatomical structures and the patient's masticatory and aesthetic functions (Pogrel, 2004). Conservative procedures, such as simple curettage or enucleation alone, are associated with higher recurrence rates, while more extensive surgical approaches, such as segmental resections with safety margins, have better results in terms of disease control (Boffano et al., 2011; Martins et al., 2021).

Long-term clinical and radiographic follow-up is considered an essential step in the management of odontogenic myxoma, due to the possibility of late recurrence of the lesion (Osman et al., 2021). The literature recommends periodic monitoring for a minimum period of five years, with greater frequency in the first two years after treatment, a period in which a higher incidence of recurrences is observed (Martins et al., 2021). This continuous follow-up allows for the early detection of recurrences and contributes to

the reduction of functional and aesthetic complications associated with disease progression.

REFERENCES

Forte, M., et al. (2025). Odontogenic myxoma associated to unerupted mandibular molar in a pediatric patient: a new case description with comprehensive literature analysis. Children, 12, 158.

Gau-Okroglic, A., & Milicevic, M. (2021). Myxome odontogénique chez l'enfant: une lésion exceptionnelle, localement destructrice. Archives de Pédiatrie.

Ghazali, A. B., et al. (2021). Central odontogenic myxoma: a radiographic analysis. International Journal of Dentistry, 2021, 1093412.

Khalil, A., et al. (2022). Odontogenic myxoma of the mandible: a case report. Annals of Medicine & Surgery, 77, 103575.

Martins, H.-D.-D., et al. (2021). Odontogenic myxoma: follow-up of 13 cases after conservative surgical treatment and review of the literature. Journal of Clinical and Experimental Dentistry, 13(7), e636–e641.

Ngham, H., et al. (2022). Odontogenic myxoma of the maxilla: a rare case report and review of the literature. Annals of Medicine and Surgery, 77, 103575.

Osman, S., Hamouda, G. M., & Eltohami, Y. I. (2021). Clinical spectrum and treatment of odontogenic myxoma: analysis of 37 cases. Journal of Maxillofacial and Oral Surgery, 23, 301–307.

Barnes, L., et al. (2005). World Health Organization classification of tumours: pathology and genetics of head and neck tumours. Lyon: IARC Press.

Buchner, A., Merrell, P. W., & Carpenter, W. M. (2006). Relative frequency of central odontogenic tumors: a study of 1,088 cases. Journal of Oral and Maxillofacial Surgery, 64(9), 1343–1352.

Halfpenny, W., Verey, A., & Bardsley, V. (2000). Myxoma of the jaws: a case series and review of the literature. British Journal of Oral and Maxillofacial Surgery, 38(5), 401–404.

Lo Muzio, L., et al. (1996). Odontogenic myxoma of the jaws: a clinical, radiologic, immunohistochemical, and ultrastructural study. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology, 82(4), 426–433.

MacDonald-Jankowski, D. S. (2004). Odontogenic myxoma in the jaws of a Hong Kong Chinese population. Clinical Radiology, 59(4), 324–335.

Manne, R. K., et al. (2012). Odontogenic myxoma of the mandible. Case Reports in Dentistry, 2012, 1–4.

Neville, B. W., et al. (2016). Oral and maxillofacial pathology (4th ed.). St. Louis: Elsevier.

Regezi, J. A., Sciubba, J. J., & Jordan, R. C. K. (2017). Oral pathology: clinical pathologic correlations (7th ed.). St. Louis: Elsevier.

Reichart, P. A., & Philipsen, H. P. (2004). Odontogenic tumors and allied lesions. London: Quintessence Publishing.

Simon, E. N. M., et al. (2004). Odontogenic myxoma: a clinicopathological study of 33 cases. International Journal of Oral and Maxillofacial Surgery, 33(4), 333–337.

Speight, P. M., & Takata, T. (2018). New tumour entities in the 4th edition of the World Health Organization classification. Virchows Archiv, 472(3), 331–339.