



Decision making for total removal of erosive lesion in the palate associated with gastroesophageal reflux

Tomada de decisão para remoção total de lesão erosiva no palato associada a refluxo gastroesofágico

Toma de decisión para la eliminación total de una lesión erosiva en el paladar asociada a reflujo gastroesofágico

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ABSTRACT

Objective: To report the clinical management of an inflammatory ulcerated lesion on the palate of a patient with gastrointestinal disorder. **Case details:** Patient, 48 years old, accompanied by his wife, attended the dental clinic of Nilton Lins University, reporting as the main complaint the presence of a wound on the palate with local burning that appeared in 1 month, increasing in size rapidly. The lesion appears unilaterally in the left posterior region of the hard palate, with an inflammatory characteristic, fibrous consistency and whitish color, indicative of local ischemia accompanied by burning and painful symptoms on palpation. Given the characteristics presented in the case, it was decided to perform an incisional biopsy of the infected tissue and part of the healthy tissue, with subsequent histopathological evaluation following the hypothesis of necrotizing sialometaplasia or mucoepidermoid carcinoma. After confirmation, the total removal of the pathological content was performed, showing success in the chosen procedure after 1 year of follow-up. **Final considerations:** The conduct of case proved resolute. It is interesting to point out that the investigation of related triggering factors is essential, considering the strong association between gastrointestinal disorders; chemical and/or traumatic events with the manifestation of this pathology, ruling out the hypothesis of malignant alteration.

Keywords: Necrotizing Sialometaplasia, Pathology Oral, Salivary Gland Diseases, Pathology Surgical.

RESUMO

Objetivo: Relatar o manejo clínico de lesão ulcerada inflamatória em palato de paciente com distúrbio gastrointestinal. **Detalhamento do caso:** Paciente, 48 anos, acompanhado da esposa, compareceu à clínica odontológica da Universidade Nilton Lins, relatando como queixa principal a presença de ferida em palato com ardência local que surgiu em 1 mês, aumentando de tamanho rapidamente. A lesão se apresenta de forma unilateral em região posterior esquerda do palato duro, com característica inflamatória, consistência fibrosa e coloração esbranquiçada, indicativa de isquemia local acompanhada de ardência e sintomatologia dolorosa à palpação. Diante das características apresentadas no caso, optou-se pela realização de biópsia incisional do tecido infectado e parte do tecido sadio, com posterior avaliação histopatológica seguindo a hipótese de sialometaplasia necrosante ou carcinoma mucoepidermoide. Após confirmação, foi realizado a remoção total do conteúdo patológico, evidenciando após 1 ano de acompanhamento sucesso na conduta escolhida. **Considerações finais:** A conduta se mostrou satisfatória. Porém, deve-se atentar à identificação dos fatores desencadeantes para melhor atender a resolução do caso.

Palavras-chave: Sialometaplasia Necrosante, Patologia Bucal, Doenças das Glândulas Salivares, Patologia Cirúrgica.

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RESUMEN

Objetivo: Informar el manejo clínico de una lesión ulcerada inflamatoria en el paladar de un paciente con trastorno gastrointestinal. **Detalles del caso:** Paciente de 48 años, acompañado de su esposa, acudió a la clínica dental de la Universidad Nilton Lins, reportando como queja principal la presencia de una herida en el paladar con ardor local que apareció en 1 mes, aumentando de tamaño rápidamente. La lesión aparece unilateralmente en la región posterior izquierda del paladar duro, con característica inflamatoria, consistencia fibrosa y color blanquecino, indicativa de isquemia local acompañada de síntomas de ardor y dolor a la palpación. Dadas las características presentadas en el caso, se decidió realizar biopsia incisional del tejido infectado y parte del tejido sano, con posterior evaluación histopatológica siguiendo la hipótesis de sialometaplasia necrotizante o carcinoma mucoepidermoide. Luego de la confirmación se realizó la remoción total del contenido patológico, demostrando éxito en el procedimiento elegido luego de 1 año de seguimiento. **Consideraciones finales:** La conducta fue satisfactoria. Sin embargo, se debe prestar atención a identificar los factores desencadenantes para resolver mejor el caso.

Palabras clave: Sialometaplasia Necrotizante, Patología Bucal, Enfermedades de las Glándulas Salivales, Patología Quirúrgica.

INTRODUCTION

Necrotizing sialometaplasia (NS) is a rare benign and inflammatory lesion that usually affects the minor salivary glands of the palate (ABDALLA-ASLAN R, et al., 2020). Although its etiopathogenesis is unknown, some factors such as: alcohol abuse; constant local trauma; and eating disorders may be associated, conditions with a potential predisposition to the onset of the lesion (SENTHILNATHAN N, et al., 2022). NS is an example that certain manifestations in the oral cavity have a direct and indirect correlation with gastrointestinal disorders (MAHAJAN R, et al., 2022).

In addition, some types of specific and/or non-specific eating disorders such as bulimia and anorexia may be associated with recurrent vomiting whether self-induced or not (HASAN S, et al., 2020). The presence of gastric fluids in the oral cavity changes the behavior of intraoral tissues, originally causing a decrease in salivary pH, and such alteration related to salivary volume may be related to infarction and/or ischemic necrosis of the salivary glands (COSTA E, et al., 2023). The influences of these changes cause disorders in oral health, and it is up to the dentist to diagnose these clinical signs early (MAHAJAN R, et al., 2022; HASAN S, et al., 2020).

Clinically, NS is evidenced as an ulcerated and inflammatory lesion that resembles neoplasms with malignant potential, surrounded by irregular and erythematous borders (ZHURAKIVSKA K, et al., 2019). When there is involvement of minor salivary glands, the lesion is initially nodular and progresses to a central, deep and painful ulceration (FERNANDES PM, et al., 2021). Despite involving the hard palate in greater prevalence, this alteration can occur: in the nasal sinuses; paranasals; major salivary glands; laryngotracheal complex; and other regions of the oral cavity, highlighting an accelerated development (NUTTALL E and WEHRMANN D, 2022). The lesion has particularities, due to the clinical characteristics of NS resembling malignant tumors of the salivary glands, differential diagnoses must be considered, among which stand out: mucoepidermoid carcinoma and squamous cell carcinoma (PHILIPONE EM and PETERS SM, 2023). Preceding the stage of disclosure of ulcers, their aspects can mimic these neoplasms, as both are manifested through painful symptoms (THANDI BS, et al., 2023).

It is necessary to correctly identify the triggering factors, since the difficulty in precisely recognizing this alteration is not only valid in the clinical evaluation, but also in the histopathological one (ABDALLA-ASLAN R, et al., 2020). Management of NS mainly includes follow-up and pain control with analgesics, as these lesions usually resolve spontaneously within weeks (FERNANDES PM, et al., 2021).

Although this pathology is benign and does not require treatment, the biopsy remains the key to a definitive diagnosis, since it has varied aspects depending on the evolution and extent of the lesion (PHILIPONE EM and PETERS SM, 2023). Adopting surgical approaches as a form of treatment is an assertive choice, either partially or completely, due to the need for histopathological evaluation, which must be accompanied by the removal of the causal factor (RUSHINEK H, et al., 2016).

That said, this work aims to report the clinical management of an inflammatory ulcerated lesion on the palate of a patient with gastrointestinal disorder.

CASE STUDY

Patient, 48 years old, male, feoderma, accompanied by his wife, attended the dental clinic of Nilton Lins University, reporting as the main complaint the presence of a wound in the region of the palate with local burning that appeared in 1 month, increasing in size quickly. After the person responsible signed the Free and Informed Consent Form, the service continued. During the anamnesis, the patient reported not performing brushing, opting for the daily use of chlorhexidine 0.12% with alcohol in the composition. In addition, he reported having suffered an ischemic stroke 5 years ago, is diagnosed with: hypertension; gastric disorder; and schizophrenia and declared periodic follow-up: neurological; cardiological; gastroenterological; psychiatric; psychological due to a trauma that occurred during the exercise of the profession, in armed robbery. The patient also reported using medications such as: risperidone; clonazepam; atenolol; and hydrochlorothiazide.

In the extraoral physical examination, he presented painful symptoms in the temporal region only on the left side, in addition to pain on palpation in the submandibular region on the same side, where the stimulus is directed to the lesion site. In the intraoral examination, the following were highlighted: biofilm; unsatisfactory restorations; indication of tooth extraction; and a unilateral lesion in the left posterior region of the hard palate, with an inflammatory characteristic, fibrous consistency and whitish color, indicative of local ischemia accompanied by burning and painful symptoms on palpation, a similar whitish characteristic can be noted on the opposite side (**figures 1 and 2**). In view of the characteristics presented in the reported case, it was decided, after written authorization from the other professionals mentioned, to perform an incisional biopsy of the lesion for histopathological evaluation.

Figure 1 - Clinical aspect of the upper arch.



Source: Silva e Silva CGL, et al., 2024.

Figure 2 - Ulcerated lesion on the hard palate.



Source: Silva e Silva CGL, et al., 2024.

After 10 days and full written permission from the professionals involved, the initial blood pressure was measured, measuring 140X80, allowing a ready state to perform the procedure. Initially, intra and extra-oral antisepsis was performed with, respectively: chlorhexidine digluconate 0.12% in mouthwash for 1 minute; and topical 2% chlorhexidine digluconate, followed by assembly of the operative field.

Then, infiltrative anesthesia was performed in the peripheral zone of the lesion, with a margin of approximately 1 cm from the structure, using 2% lidocaine associated with epinephrine at a concentration of 1:100,000.

At the end of this stage with analgesia control, the incision was made removing part of the lesion and part of the healthy tissue through single and continuous cuts with a #15 scalpel blade, while supporting the tissue fragment with Adson forceps (**Figure 3**).

Figure 3 - Appearance after removal of the fragment.



Source: Silva e Silva CGL, et al., 2024.

Subsequently, hemostasis was controlled with gauze soaked in a 0.9% saline solution on the tissue. It was concluded with the co-option of the edges of the lesion by suturing with simple stitches, using 4-0 nylon thread.

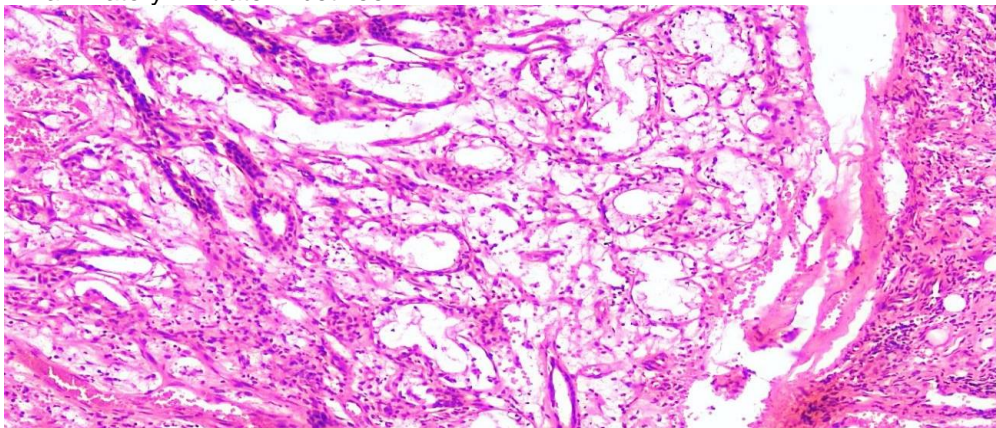
The tissue fragments removed were immersed in a 10% formalin solution in collection pots and sent to the Department of Pathology and Legal Medicine of the Faculty of Medicine of the Federal University of Amazonas with a diagnostic hypothesis of NS or mucoepidermoid carcinoma. For postoperative care, the following were prescribed: anti-inflammatory (ketoprofen 100mg), 1 tablet every 12 hours for 3 days; analgesic (paracetamol 750mg), 1 tablet every 8 hours for 2 days; and antibiotic (500mg amoxicillin), 1 pill every 8 hours for 5 days, each medication was reviewed and approved by other professionals.

The patient was informed about care with food, paralyzing the daily use of chlorhexidine, followed by guidance regarding the hygiene of the region where the surgical procedure was performed. After 7 days, he returned for the removal of the suture, which highlights the adequate tissue healing, still in the process of repair, however, showing the absence of a whitish profile in the region on the opposite side.

In the histopathological sections stained with hematoxylin and eosin (HE), it is evident: fragments of tissue such as the palatine mucosa, with lesions characterized by extensive areas of autolyzed material, areas with ischemic vessels and even mucous acini uncharacterized by necrotic processes, permeated by chronic inflammation nonspecific (**Figure 4**). The remaining parakeratotic surface epithelium exhibits acanthosis with blunt, tuberous projections into the underlying connective tissue. In view of the above observations, combined with the clinical characteristics present in the case, the NS hypothesis was confirmed.

At the end of the 2 months, after removing the causal factor, confirming the diagnostic hypothesis through the histopathological report, the other professionals were informed about the possibility of total surgical removal of the lesion due to the absence of regression of the pathology. After written approval, the exeresis of the lesion was performed. The steps of antisepsis, assembly of the operative field and control of analgesia were carried out in the same way as mentioned above.

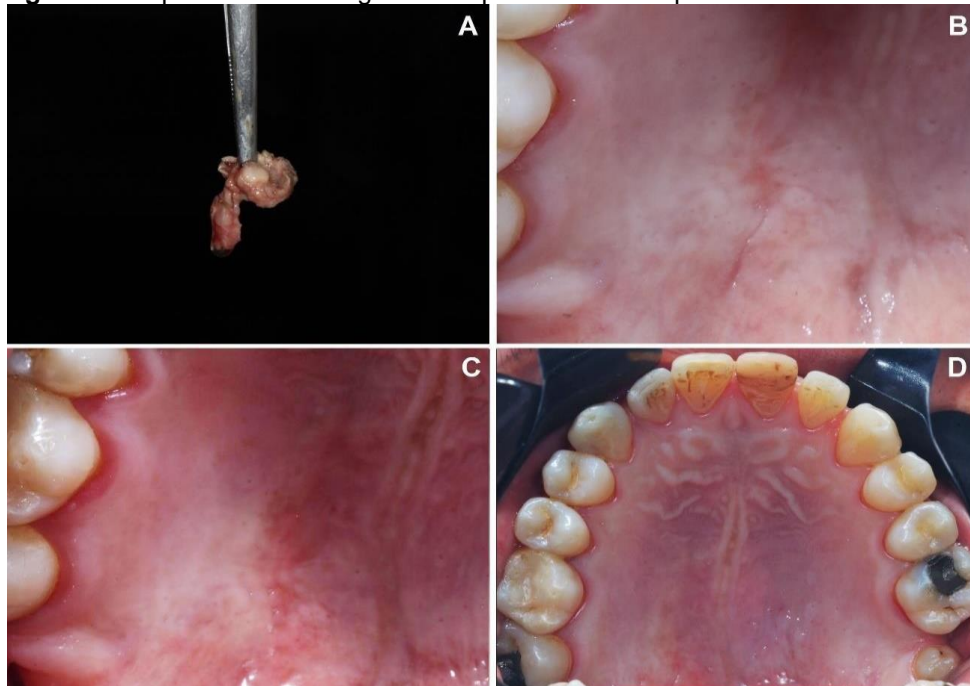
Figure 4 - Histopathologic section (200x) showing autolyzed material, as well as dedifferentiated mucous acini and ducts, in addition to moderate nonspecific chronic inflammatory infiltrate in between.



Source: Silva e Silva CGL, et al., 2024.

Once these steps were completed, with the aid of a #15 scalpel blade, an incision was made along the entire peripheral margin of the lesion, followed by detachment of the mucoperiosteal tissue with a Freer detacher. Using the same instrument, the fatty tissue layer was removed down to the bone zone below the pathological tissue (**Figure 5a**). The injured area was abundantly irrigated with a 0.9% saline solution, followed by curettage and stimulation of clot formation. Soon after, the peripheral zones were coapted by suturing with simple stitches using 4-0 nylon thread. Hygiene guidelines and drug prescription were maintained. The patient returned after 10 days for suture removal, showing adequate healing. At the end of the 30-day follow-up period, the patient returned again for evaluation, where complete healing of the affected region could be seen, in addition to the absence of signs related to any adversity or recurrence of the pathology (**Figure 5b**). One year after the operation, tissue adequacy and a discreet scar in the affected area are observed. The patient was referred to undergo other dental procedures and is still being followed up, with no complaints or symptoms related to recurrence (**Figures 5c and 5d**).

Figure 5 - Representative images of the patient's clinical picture.



Notes: **5a** - Complete removal of the pathological tissue lesion, **5b** - Clinical aspect after 30 days, **5c** - Clinical aspect after 1 year and **5d** - Final clinical appearance occlusal view. **Source:** Silva e Silva CGL, et al., 2024.

As per international standards or university standards, Participants' written consent has been collected and preserved by the author(s). This work was submitted to the Ethics and Research Committee on Human Beings, approved under opinion 6.484.944 and CAAE 74308323.4.0000.5015.

DISCUSSION

NS presents itself as a pathological condition with notable characteristics, of rapid evolution, commonly accompanied by painful symptoms (ZHURAKIVSKA K, et al., 2019). However, the main manifestation is still clinical, showing itself as deep ulceration, which is often well noticed by the patient (FERNANDES PM, et al., 2021).

Generally, it occurs laterally to the midline of the palate, in extensive cases it may cross this line and eventually present itself bilaterally (NUTTALL E and MEDEIROS MRS, 2022). The evaluation of this anomaly is based on the study of the specific signs and symptoms that usually accompany it, that is, common characteristics for its appearance (SENTHILNATHAN N, et al., 2022).

Considered rare, the etiology still remains unknown, even so, it may be associated with ischemic processes and subsequently cause infarction and necrosis of the salivary glands involved (HAEN P et al., 2017). According to El Gaouzi R, et al. (2022) Varied causes are proposed as possible etiologic factors including: alcohol abuse; drugs; smoking; traumatic events; chemicals; and gastrointestinal disorders. In the present case, the patient reported daily use of 0.12% chlorhexidine-based mouthwash containing alcohol, sometimes as a substitute for manual brushing, making it possible to correlate the prolonged use of chemical irritant as a coadjuvant agent for the appearance of this pathology.

In the present case reported, the patient also reported undergoing gastroenterological follow-up due to impairment of the digestive system, associated with persistent reflux, aggravating the condition of the lesion. Gastroesophageal reflux disease is a chronic digestive disease with systemic and multifactorial involvement what causes numerous extra esophageal symptoms affecting the oral cavity (MAHAJAN R, et al., 2022). Lechien JR, et al. (2020) reinforce this concept, reporting that the disease can act directly on the tissues, due to changes in the local pH, causing the formation of tissue lesions. During the identification of the lesion, some questions arise regarding the diagnosis, aiming at this resolution, if it is necessary to indicate a biopsy, relating the clinical and histopathological factors, since minor glands are the site of numerous neoplastic and non-neoplastic processes (LEAL VL, et al., 2019).

Second Joshi SA, et al. (2014) NS has different differential diagnoses, the main ones being: primary adenocarcinoma of the palate; mucoepidermoid or squamous cell carcinoma; secondary syphilis; and tuberculous ulcer. Performing a biopsy is essential for identification, as was presented in the clinical case, the result of the histopathological report allowed the removal of the entire content of the lesion, ruling out malignancy, with greater safety and predictability.

According to Riquelme-ME and Badilla-MR (2018) there are histological criteria described to distinguish NS from malignant glandular lesions, among them: preservation of general lobular morphology; islands of squamous cells with no sign of malignancy on their cytology; and absence of ductal residue at these sites. Due to a similar morphology, SN content has already been observed in the periphery of salivary glands involved with cancer, which raises the suspicion that this could be a precancerous lesion (FERNANDES PM, et al., 2021; NUTTALL E and ROCHA ESPÍRITO G, 2022). In view of this fact, in this case, conditions directly related to the hypothesis were observed in the histopathological sections, discarding signs of malignancy.

Generally, surgical treatments for NS are not recommended, as ulcerated lesions heal spontaneously by second intention (ABDALLA-ASLAN R, et al., 2020). Administration of analgesics for pain control and anti-inflammatories for local inflammation may be considered, as well as antibiotic therapy (MAHAJAN R, et al., 2022; FERNANDES PM, et al., 2021; PHILIPONE EM and PETERS SM, 2023). However, surgical removal is applied mainly in cases where the cause-effect relationship is not conclusive for a definitive diagnosis, or to stop the possible exponential growth that the pathology may present prior to the recovery stage (ZHURAKIVSKA K, et al., 2019; RIQUELME-ME and BADILLA-MR, 2018). The remission period of the lesion described in the literature varies between an average of 2 to 4 months, causing no consequences to

the patient or recurrence if the causal factor is removed (RIQUELME-ME and BADILLA-MR, 2018; JOSHI SA, et al., 2014). However, choosing total removal after ruling out any other more malignant pathology through a histopathological report is also not capable of causing any sequelae to the patient, that is, it is an operator-dependent decision (GADKAREE SK, et al., 2019; RUSHINEK H, et al., 2016).

In the case presented, factors such as: painful symptomatology; foul odor and eating impairment over a period of approximately 10 weeks were crucial for this decision making, since the patient's physical well-being and social interaction remained fragile due to the persistence of the lesion, which can be seen in a short period that it was a resolute conduct, enabling tissue recovery and the reestablishment of the patient's comfort and safety. Therefore, the conduct of the case proved resolute. It is interesting to point out that the investigation of related triggering factors is essential, considering the strong association between gastrointestinal disorders; chemical and/or traumatic events with the manifestation of this pathology, ruling out the hypothesis of malignant alteration. In addition, opting for complete removal of the lesion can indeed be a viable option, when the delay for regression is a problem for the patient, as long as it is supported by the histopathological report and respects the surgical steps.

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