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RESEARCH ARTICLE

EPULIS FISSURATUM: PRE-PROSTHETIC SURGICAL TREATMENT IN A TOTAL EDENTULOUS PATIENT

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ABSTRACT

The epulis fissuratum is a chronic pseudotumor lesion associated with the wearing of an unstable prosthesis that sinks into the soft tissues of the vestibule, causing the formation of reactive tissue. This lesion is favoured by the resorption of the alveolar bone in the elderly subject. The diagnosis is based on the clinical examination completed if necessary with a radiological and histological examination for lesions that are not recent. The treatment consists of the removal of the etiological factor and surgical removal of the mass with a new prosthesis to prevent recurrence. We have chosen to illustrate this article with a clinical case of a bimaxillary total edentulous patient.

INTRODUCTION

The wearing of old and unsuitable prostheses can cause injuries to some patients due to the edges that support the bottom of the vestibule and thus create real fibro-epithelial hyperplasia due to repeated trauma. These swellings are present in the vestibule outside the prosthesis and sometimes form true mucosal sheets of pseudo-tumoral appearance called "epulis fissuratum" or "fissured", which further handicaps the user of the prostheses (John, 2003). If these lesions are small in size, a simple modification of the edges of the prosthesis, associated or not with tissue conditioning using conditioning materials, allows them to disappear, but in other cases, if the prosthesis is to be renewed and these hyperplasia form large sheets, it is certain that surgery must be performed (Diatine, 1996).

The epulis fissuratum: Epulis is a benign tumor of the gums that has no degenerative potential. It is a hyperplastic and circumscribed pseudotumour (Ennibi, 1999).

Ethiopopathogenic mechanism: The benign proliferation of these tumours is the response to pathological stimulation of hormonal or inflammatory origin (Piette Reychler, 1991).

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The determining causes are difficult to identify, as there is often a combination of several local and general factors (N'Diaye, 1995). The quality of oral hygiene is the most incriminating factor among local ones (http://www.lookfordiagnosis.com/ les maladies de la gencive). Age, senescence, sex, hormonal disorders and general pathologies such as diabetes are the general factors (Russman, 2019). The cracked epulis being a common reaction, following a chronic lesional process, resulting from the instability of the prostheses is always related to a poorly designed device, poorly adapted or become poorly adapted after several years of use (Ennibi, 1999).

Clinical aspect: These are lesions that appear as hyperplastic proliferations, single or multiple, elongated in the gingivo-labial or gingivo-jugal sulcus. These folds can be floating or firm and frequently present painful ulcerations at the base (Raybaud, 2006).

Histological aspect: The epulis fissuratum consists of:

- Loose, oedematous or fibrous connective tissue characteristic of the presence of major chronic inflammation.
- A hyperplastic epithelium, slightly keratinized on the surface and capable of taking on a pseudo-epitheliomatous appearance (Demoersman).

Radiological aspect: Radiography is necessary, but not mandatory for diagnosis and treatment. But if a panoramic or

retroalveolar operation is performed, it is possible to see the implantation base at the bone level and to observe an alveolysis zone (Masashi, 1997).

Anatomo-pathological aspect: The epulis meets two criteria that are unanimously accepted by the authors:

- A topographical criterion: the location of the shoulder at the level of the vestibule in relation to the edge of a poorly adapted prosthesis.
- A begninity criterion: the epulis is a tumour that does not recur after complete removal, does not give metastasis or lymph node invasion (N'Diaye, 1995).

In doubtful cases, the anatomo-pathological examination allows a differential diagnosis with other tumours, in particular: multiple fibroids, neuro-fibromatosis and epidermoid carcinoma.

Therapeutic modalities: The treatment of the epulis must be preceded systematically by histological examinations and, if necessary, radiological examinations.

Curative treatment: Medical treatment consists of prescribing antibiotics, anti-inflammatories and topical products. Drugs help to limit recurrence by reducing inflammation and infection that can cause the regeneration of this pseudo-tumour (Kabore, 1998). Surgery, on the other hand, is performed under local anesthesia and consists of the total excision of the lesion with the bone anchorage points. This surgery must be followed by curettage of the implantation area (N'Diaye, 1995). Surgery with an electric scalpel is preferable, because the known advantages of scalpel surgery are surgical hemostasis and rapid healing. The covering of the excision site by displaced flaps is proposed by some authors, in order to obtain a good first-line healing, less painful and faster. After surgery, the anatomopathological examination of the operating part is systematic.

Etiological treatment: Etiological treatment must be necessarily associated with curative treatment, which consists in eliminating the factors that favour it. The dental surgeon must instruct the patient in hygiene and remove the cause of irritation by adjusting the traumatic prosthetic edges in relation to the lesion (Rakotoarivony, 2013) Tissue conditioning using tissue conditioners makes it possible in several clinical situations, with the exception of very large, very old and fibrous hyperplasia, to treat the fissure epulis without surgery (Abdelkoui, 2018)

Evolution and complications: The evolution is towards healing after total surgical excision. However, in the event of incomplete treatment, the tumor may recur, especially since this tumor may have intraosseous ramifications that are not detected, either on the X-ray or during surgery. In the absence of treatment, it can evolve in volume to cause a functional gene and in several situations, the tumour can become very fibrous and ossified (El Wady, 1998). Other complications can occur: halitosis, anemia, hemostasis disorder in highly vascularized forms (Kone, 2008).

Post-surgical surveillance: Surgical treatment requires some immediate post-operative checks to ensure that the wound is healing properly.

Clinical case

Clinical examination: She is a 65-year-old patient, completely edentulous and insulin-dependent diabetic. The lady came to the consultation following her concern about a budding left mandibular swelling, which has been apparent for two months and is increasing rapidly in volume.

On the endobuccal examination

- The patient's hygiene is average and the condition of the old prostheses is defective.
- The floating crest is presented in 3 sheets, ulcerated and painful opposite the edge of the total mandibular prosthesis. It is extended from the anterior crest to the left trigone with an increase in volume towards the posterior region. Some areas are fibrous and hard (Fig.1).

Figure 1. Left mandibular floating crest in sheets

Examination of old prostheses: The prosthesis was made 11 years ago.

- The surface finish is rough on the underside and on the top surface.
- Prosthetic teeth are dyschromic, abraded and the occlusal surfaces are flat and smooth.
- The maxillary prosthesis presents (Fig.2):

Very thin and short edges, not reaching the bottom of the vestibule. A short and irregular posterior limit. Non-compliance with the rules of tooth assembly. 2 and 22 metallic, which affects facial aesthetics. Good static and movement retention.

- The mandibular prosthesis is shown (Fig.3):

A lack of trigonal coverage. Thin edges. Increased instability

In occlusion (Fig.4):

The patient no longer maintains any stable occlusal reference position due to the flat surfaces of the prosthetic teeth. The leaves of the floating crest emerge at the vestibular level and, given their large volume, they hide half of the left vestibular surface of the mandibular prosthesis in height.

Radiological examination (Fig.5): Panoramic radiography does not present any particularities, except at the mandibular bone level, where there is a greater resorption in the molar regions with a more marked bone shortage on the left than on the right.

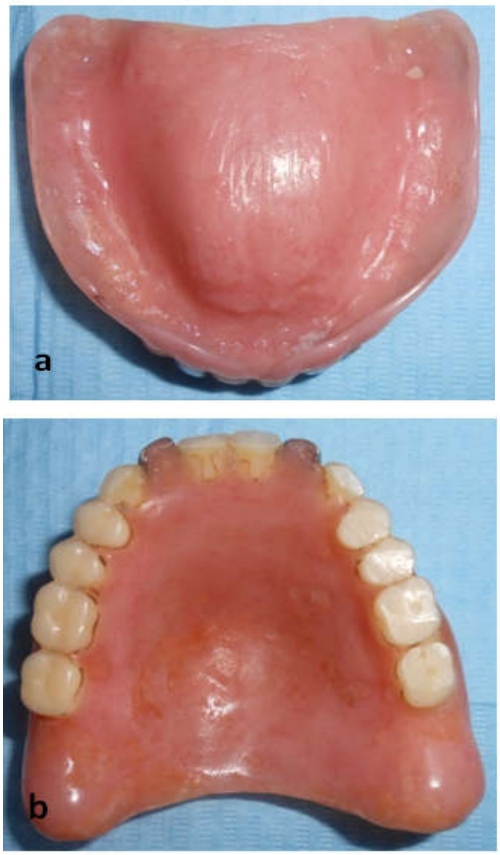

Figure 2. The maxillary prosthesis
a-view of the intrados
b- view from the top surface

Figure 3. The mandibular prosthesis:
a- view of the intrados
b- view from the top surface

Figure 4. View of occluding prostheses

Figure 5. Panoramic radiography

Therapeutic approach

- Motivation for oral hygiene
- Removal of prostheses
- Preoperative prescription:

We prescribed a chlorhexidine-based gingival gel to the patient, which she applied with a cotton swab, 2 to 3 times a day for 7 days. The gel is used after meals, on a clean and dry mucous membrane and without rinsing afterwards. It reduces inflammation and pain in order to prepare the site for surgery.

Surgical treatment: Surgical excision performed under local anesthesia. The anesthesia is done in the vestibular and lingual areas while avoiding the anesthesia of the pseudotumour leaves, thus allowing their free mobility during excision. The floating crest is then grasped with a claw forceps, slightly stretched to access its implantation base. Excision is then performed throughout this base and at the intrabony anchorage points. At the end of the surgery, the wound is rinsed and cleaned with saline solution and the overlocked sutures are performed without being too tight to avoid a possible resorption of the alveolar crest in postoperative care (Fig.6).

Medical treatment:

- Antibiotic based on penicillin G orally for 8 days, to avoid the risk of infection in the patient due to her diabetic condition
- Analgesic to be administered in case of pain.
- Chlorhexidine-based mouthwash to be used 24 hours later, in grooving 3 times a day for 7 days
- The anatomopathological examination of the operating room confirmed the clinical and etiological diagnosis of a fissured epulis.
- Controls:

A first check-up appointment was scheduled 7 days later to assess the hygiene and healing of the wound. No signs of inflammation or infection are noted. The second check at 15 days for the removal of the suture. At one month after the surgery the healing is complete and the prosthetic steps can be started (Fig.7).

Prosthetic treatment: After pre-prosthetic surger, the osteomucosal surfaces are ready for a new prosthesis. The total bimaxillary prosthesis is then made according to the rules of the art following the conventional steps of realization.The patient was satisfied with her new prosthesis, which she described as comfortable (Fig.8).

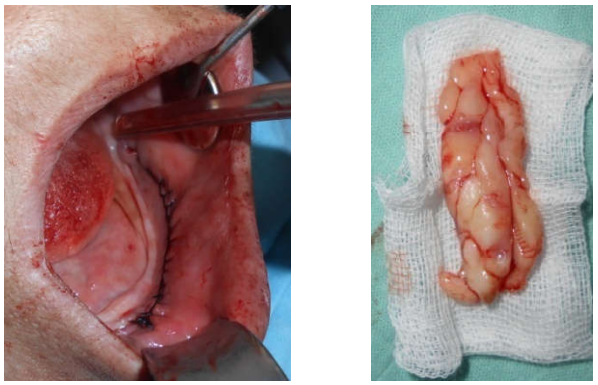

Figure 6. Removal of the floating crest

Figure 7. Complete healing of the crest one month later

Figure 8. Insertion of the new prosthesis in the mouth

Conclusion

The wearing of unstable prostheses usually leads to the appearance of tissue alterations, and the practitioner will only be able to begin the development of a new prosthesis after preparation of the support surfaces intended to receive it. Simple alterations can be treated by non-surgical condtitioning tissue, more complicated alterations such as epulis fissuratum require pre-prosthetic surgical treatment.

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