

PROSTHODONTIC REHABILITATION AFTER ORAL SURGICAL TREATMENT OF A PATIENT WITH EPULIS FISSURATUM - case report

ПРОТЕТИЧКА РЕХАБИЛИТАЦИЈА ПО ОРАЛНО ХИРУРШКИ ТРЕТМАН НА ПАЦИЕНТ СО EPULIS FISSURATUM – приказ на случај

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Abstract

Introduction. Epulis fissuratum is a fibrous hyperplasia of the oral connective tissue, which occurs by the continuous mechanical irritation with low intensity of removable dentures edges. **Material and method.** The presented case report is based on the evident changes in the mouth of the patient from the Department of Prosthodontics, wearing complete removable dentures over a period of 20 years. As a result of a long-lasting wearing of the dentures without appropriate control examinations, corrections, or replacing, we found inflammatory tissue hyperplasia around the vestibular edge of the lower removable denture during clinical examination. An intervention for removal of the changed tissue was performed at the Department for oral surgery. **Results.** After initial tissue consolidation, a prosthodontic rehabilitation with producing a new pair of dentures was done. **Aim.** The purpose of our study is to show the multidisciplinary approach for complete rehabilitation in a patient with Epulis fissuratum. **Key words:** complete removable dentures, Epulis fissuratum.

Апстракт

Вовед. Epulis fissuratum претставува фиброзна хиперплазија на сврзното ткиво во устата, која се јавува како резултат на континуирана механичка иритација со мал интензитет, а која најчесто потекнува од работ на подвижните протези. **Материјал и метод.** Прикажаниот случај се однесува на пациент од Клиниката за стоматолошка протетика кој е носител на тотални протези во период од 20 години. Како резултат на долготрајното носење на протезите без соодветни контролни прегледи и корекции, односно без замена на протезите со нови изработки, кај пациентот е забележана промена во вид на инфламаторна хиперплазија на ткивото околу вестибуларниот раб на долната тотална протеза. На клиниката за Орална хирургија извршена е орално-хируршка интервенција со која е отстрането променетото хиперпластично ткиво. **Резултати.** По иницијалната консолидација на ткивото, се отпочна протетичка рехабилитација со изработка на пар нови тотални акрилатни протези. **Цел.** Целта на овој труд е да се прикаже мултидисциплинарниот пристап неопходен за потполна рехабилитација кај пациент со Epulis fissuratum. **Клучни зборови.** тотални протези, Epulis fissuratum.

Introduction

Edentulous patients are in need of a prosthetic device which can improve their important vital functions such as mastication, phonation, socialization etc. Complete removable dentures in this direction provide satisfactory improvements in the quality of life of these patients, but there are frequent changes that may occur when inadequate dentures are used, or when adequate dentures are subject to a prolonged period of wear¹.

Epulis fissuratum is a benign, tumor like type hyperplasia of fibrous connective tissue in the form of a reac-

tive lesion which occurs as a result of chronic mechanical irritation most commonly caused by the edge of inadequate removable prosthetic constructions². This condition is also referred to as inflammatory fibrous hyperplasia, denture epulis, denture-induced fibrous hyperplasia etc. Epulis fissuratum is presented as a lesion in the form of folds with a smooth surface, covered with normal or erythematous overlying mucosa. Sometimes, ulcerated surfaces can be seen as a result of chronic irritation when the oral mucosa is traumatized³. The size of lesions is variable and they can be seen as small lesions, localized hyperplasia with dimensions less than 1 cm, to

extensive changes involving most of the denture or the entire length of the tissue around its border⁴.

The occurrence of epulis fissuratum is closely correlated with the active use of removable dentures that explains the high incidence of the presence of this change among elderly individuals. Epulis fissuratum most often occurs as a result of an ill-fitting denture, but a reason for this change are also considered activities like wearing the denture all day long, and through the night too, inadequate oral hygiene, smoking, age-related changes, and different systemic conditions and general diseases⁵. Patients with many medical conditions related to hypo salivation or some para-functional activity are exposed to higher risk of oral mucosal alteration⁶.

The presentation of this condition according to gender is more common in women than in man, and in terms of the predilection place of appearance, we can speak about an equal presence in the maxillary and mandibular jaw, but the change is more commonly seen on the facial surface of the alveolar ridge. The greater female affectedness is thought to be due to the hormonal imbalance that occurs in women at certain periods of life (puberty, gravidity, menopause), which leads to atrophic epithelial changes in the tissues, which in turn lead to an increased response to trauma in female individuals. In relation to the age of people diagnosed with epulis fissuratum, the entity is usually met in middle-aged and older adults⁷. It is pointed out that chronic trauma with different intensity present in the oral cavity, mostly caused by the borders of the ill-fitting dentures, have the potential to cause oral carcinoma⁸. This kind of risk is also present when sharp edges of teeth, fillings, bridges or crowns are noticed in the patient's mouth⁹.

Case Report

A 70-years old male patient, who was using the same pair of complete removable dentures in a period of over 20 years, visited the Department of Prosthodontics at the University Dental Clinic in Skopje, because of a filling of discomfort and obstacles in the everyday active use of the dentures. The main complaints were that he was not able to eat with his dentures as he used to do before. In the initial period of denture wearing, a few corrections were made, while in the later period during long years of wearing, additional control checks were not carried out at all.

During the clinical examination, we observed a change in the form of inflammatory hyperplasia of the tissue around the vestibular edge of the lower removable denture, followed by the incompatibility of the denture surfaces with the denture base tissue. On palpation, the change was painless, firm, fixed to the mucosa and sur-



Figure 1. Tissue condition during the first clinical examination

rounding structures, with a pink color, uneven and streaked surface (Figure 1). The edges of the denture laid in the grooves between the folds of hyperplastic tissue.

The biomaterial, from which the dentures were made, was impaired and porous, artificial teeth were abraded, the occlusal relations disrupted, with a reduced vertical dimension and altered physiognomic characteristics, visible deepening of the nasolabial and mentolabial furrow, absence of support of the lips, accompanied by depression of the lip commissures (Figure 2).

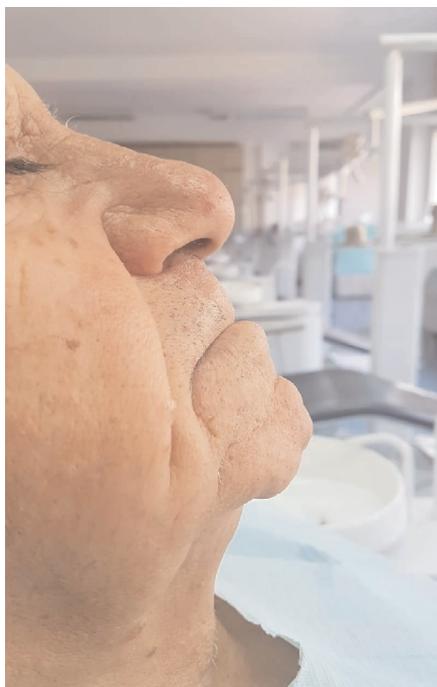


Figure 2. Reduced vertical dimension with altered physiognomic characteristics

The patient was referred to the Department of Oral Surgery, where oral surgery intervention was made. In order to eliminate the inflammation, the patient was

advised not to use the dentures for a period of at least two weeks before the intervention. With the withdrawal of inflammation, partial regression of the lesion occurred, which in turn provided more favorable circumstances for carrying out the intervention. A conventional surgical excision of the changed tissue from the vestibule of the oral cavity was made (Figure 3).

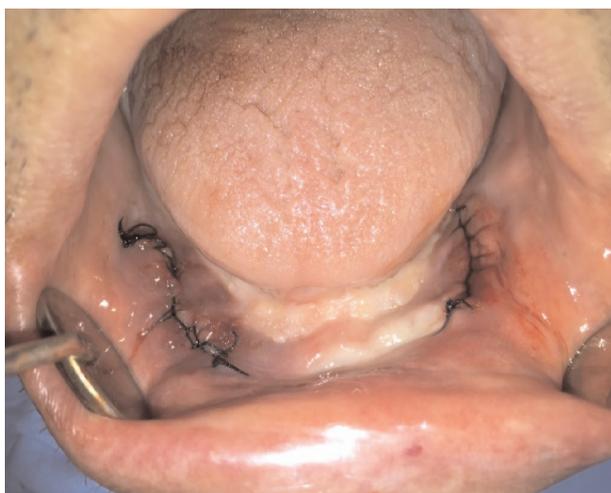


Figure 3. Tissue condition immediately after the surgery

During the surgery, the excised operating material obtained intra-operatively was immediately placed in two Eppendorf tubes. The material was sent for a histopathological analysis in the Institute of Pathology at the Medical Faculty – University” Ss. Cyril and Methodius“ – Skopje. The analysis confirmed the existence of a chronic inflammatory hyperplasia of the tissue. On the microscopic level of the cutouts, an acanthotic and papillomatous elongation of a multilayer plate epithelium with parakeratosis were found, also subepithelial proliferated connective tissue with moderate and in sections strongly expressed chronic inflammatory infiltrate.

The postoperative protocol and a hygiene-dietary advice have been presented to the patient. After a period of one month, time necessary for initial tissue consolidation (Figure 4), the procedure for making a new pair of complete removable dentures began.

At first, anatomical alginate impressions were taken from both upper and lower jaw and then we made the secondary impression, which included determining the borders of the future dentures in accordance with the current condition in the oral cavity, and taking a functional impression. Following the next visit with the bite blocks (wax rims) on the upper and lower jaw, centric relationship was established and occlusal vertical dimension reconstruction was made (Figure 5).



Figure 4. Tissue after the initial consolidation

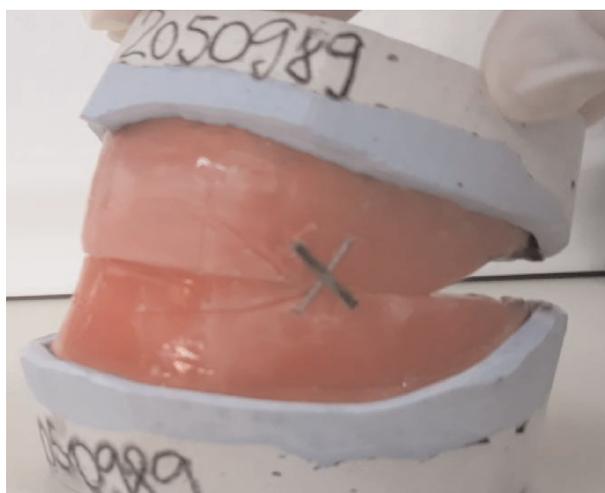


Figure 5. Bite blocks (wax rims)

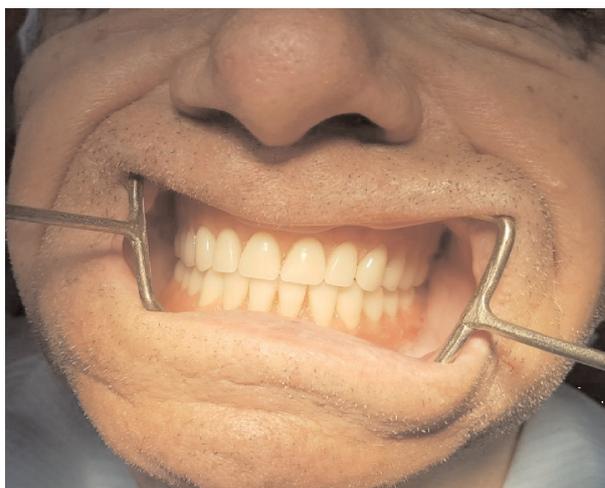


Figure 6. New pair of dentures

Also, selection of form and color of the future teeth was made. During the third visit, artificial teeth were placed in the models, and with the consent of the patient, the models were sent in the dental laboratory for final preparation. Finally, on the fifth and last visit, we put the dentures in the patient's mouth and the patient did not hide the pleasure of manufacturing a new pair of dentures (Figure 6).

After presenting the possibilities and ways of maintaining the hygiene of the dentures and the oral cavity, the great importance of regular dental examinations was pointed to the patient. Firstly, more frequent examinations were suggested (once in a month), and later on, they will be performed in periods of 6 months, in order to determine the need for eventual correction or relining of the dentures during their use.

Discussion

The fibrous hyperplasia of the gingiva is clinically manifesting as a nodular mass that is firm and painless, with a smooth surface and normal coloration¹⁰. In the early stages of epulis fissuratum formation, when granulation tissue is present, the elimination of the source of irritation is sufficient to cause complete regression of the change, while in later stages of development when the granulation tissue is replaced by fibrous tissue, there is a need for a complex intervention¹¹.

There are many different techniques that can be used for removing the hyperplastic lesions: conventional surgery, made with a surgical scalpel, carbon dioxide laser, Erbium: YAG laser, Neodymium: YAG laser, and diode laser¹². Nowadays, Liquid Nitrogen Cryosurgery is a technique that is used very often, because of the positive sides like painless procedure, excellent hemostasis, and aseptic environment. It provides good healing with minimal postoperative edema and pain¹³.

The occurrence of epulis fissuratum has a long and interesting path. It is a well-known fact that after tooth extraction, there is a loss of bone width from 25%, and a loss in bone height of 4 mm in a period of 1 year¹⁴. Some patients use the same dentures over a long time, ignoring the fact that dentures should be changed on a regular basis because of the continuous process of resorption of the alveolar bone that can't be stopped. The resorption leads to a denture that doesn't fit well, causing the mechanical low-grade irritation that stimulates the growth of the tissue around the denture edges¹⁵.

In line with the conclusion of the study done on a patient who wore conventional partial or complete removable dentures for at least 3 years, the most frequent complication of the denture carrier is the loss of retention, which can be followed by severe ulcerations¹⁶.

Bone loss allows moving the edges of the dentures deeper into the tissues of the vestibule, allowing the occurrence of denture-induced hyperplasia of the tissue, known as epulis fissuratum. The existence of epulis fissuratum may be encountered during a routine dental examination. Early detection leads to adequate treatment of the reactive lesions, and it can also further reduce bone loss or other complications¹⁷.

Conclusion

Epulis fissuratum is a condition often presented in elderly patients, with chronic low intensity irritation by inadequate dentures edges. The therapeutical approach depends on the lesions size, and conservative and surgical treatments are the options. New dentures should be fabricated as soon as possible, and the old one should be adjusted or relined.

It can be concluded that the regular control dental examinations play a big role in the prevention of occurrence of epulis fissuratum. It is simply necessary to establish a schedule for regular recalls and adhere to them as well, in order to have good clinical achievements and satisfied patients. Patients must maintain good oral hygiene and hygiene of the denture prosthesis.

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