SURGICAL MANAGEMENT OF OROCUTANEOUS FISTULA OF TRAUMATIC ORIGIN CAUSED BY A COMPLETE DENTURE: A CASE REPORT

TRATAMENTO CIRÚRGICO DE FÍSTULA OROCUTÂNEA DE ORIGEM TRAUMÁTICA CAUSADA POR PRÓTESE TOTAL: RELATO DE CASO

NATÁLIA DE QUEIROZ **MELO**[1], LAÍS MOTA **JAIME**[1], ARTUR ALVES **BRITO**[2], THAIS DA SILVEIRA **RODRIGUES**[3], ROBSON RODRIGUES **GARCIA**[3], HELENA BACHA **LOPES**[3], GILEADE PEREIRA **FREITAS**[3*]

1. MSc student, Postgraduate Program in Dentistry, School of Dentistry, Federal University of Goiás, Goiania, Brazil; **2.** Undergraduate student, School of Dentistry, Federal University of Goiás, Goiania, Brazil; **3.** Assistant professor, Postgraduate Program in Dentistry, School of Dentistry, Federal University of Goiás, Goiania, Brazil.

* Av. Universitária, s/n - Setor Leste Universitário, Goiânia, Goiás, Brazil. ZIP-CODE:74605-020. gileade@ufg.br

Received: 10/23/2025. **Accept:** 11/14/2025

ABSTRACT

Oral rehabilitation using complete or partial dentures is essential for the recovery and improvement of stomatognathic function, which improves aesthetics and chewing functions. Among the injuries triggered using prostheses, benign fibroepithelial hyperplasia, also known as inflammatory fibrous hyperplasia, is mainly caused by local trauma. Orocutaneous fistulas associated with trauma, rarely described in the literature, may occur due to injury, local factors, or surgical treatment. The present case is unique due to the association of benign fibroepithelial hyperplasia with an extraoral pathological communication, resulting in a rare orocutaneous fistula of traumatic origin caused by a mandibular complete denture. The multidisciplinary therapeutic approach reinforces the importance of continuous monitoring of geriatric patients, aiming at the prevention of oral lesions.

KEYWORDS: Diagnosis, Oral; Hyperplasia; Pathology Oral.

RESUMO

A reabilitação oral com próteses totais ou parciais é essencial para a recuperação e melhora da função estomatognática, o que melhora a estética e as funções mastigatórias. Dentre as lesões desencadeadas pelo uso de próteses, a hiperplasia fibroepitelial benigna, também conhecida como hiperplasia fibrosa inflamatória, é causada principalmente por trauma local. Fístulas orocutâneas associadas a trauma, raramente descritas na literatura, podendo ocorrer por lesões, fatores locais ou tratamento cirúrgico. O presente caso é singular devido à associação de hiperplasia fibroepitelial benigna com uma comunicação patológica extraoral, resultando em uma rara fístula orocutânea de origem traumática causada por prótese total inferior. A abordagem terapêutica multidisciplinar reforça a importância do acompanhamento contínuo de pacientes geriátricos, visando à prevenção de lesões orais.

PALAVRAS-CHAVE: Diagnóstico bucal; Hiperplasia; Patologia Oral.

1. INTRODUCTION

Oral rehabilitation using complete or partial dentures is essential for the recovery and improvement of stomatognathic function, favoring both esthetics and masticatory[1,2]. However, factors such as iatrogenesis, poor hygiene, or improper use may lead to chronic lesions in the oral cavity[3].

Among the lesions triggered by prosthetic use, benign fibroepithelial hyperplasia, also known as inflammatory fibrous hyperplasia, is primarily caused by local trauma. Clinically, it can present as nodules, sessile or pedunculated, covered by hyperplastic connective tissue and stratified squamous epithelium, with or without ulceration[4,5,6]. Its causes include continuous and improper prosthesis use, poor hygiene, parafunctional habits, systemic diseases, and local trauma caused by poorly adapted dentures or alveolar ridge resorption, resulting in excessive pressure on the mucosa[5]. Ineffective treatment may predispose patients to other lesions, highlighting the importance of addressing the underlying cause[7,5].

Orocutaneous fistula, described in the literature as one of the manifestations associated with local or dental infections, may also be related to antiresorptive medications and therapies that can trigger jaw osteonecrosis, or as a complication of neoplasms such as oral squamous cell carcinoma[8,9]. However, orocutaneous fistulas associated with trauma are rarely reported, but may occur due to injury, local factors, or surgical treatment[10].

The present case is unique due to the association of benign fibroepithelial hyperplasia with an extraoral pathological communication, resulting in a rare orocutaneous fistula of traumatic origin caused by a mandibular complete denture.

2. CASE REPORT

Patient, an 82-year-old female, was referred by the public health system to the Centro Goiano de Doenças da Boca (CGDB), School of Dentistry, Federal University of Goiás. According to the patient, the chief complaint was "a problem in the mouth, liquid leaks out" (sic). She reported the onset of the fluid leakage, which was caused by an opening in the oral cavity, with no associated pain or apparent systemic signs.

The patient's medical history included systemic arterial hypertension and a pacemaker, under regular cardiology follow-up. She denied smoking, alcohol use, and other common systemic risk factors. Her dental history included the use of complete upper and lower dentures, with no recent dental follow-up. Possible prosthetic maladaptation of complete denture was noted. Intraoral examination revealed a 1.5 cm lesion on the anterior mandibular ridge associated with an extraoral pathological communication, resulting in a rare orocutaneous fistula of traumatic origin caused by a mandibular complete denture (Figure 1).

Figure 1. Initial clinical aspect of the lesion observed extraorally.

To the surgical management, an incisional biopsy under local anesthesia was performed, along with fistulectomy, intra- and extraoral sutures, and compressive dressing (Figure 2A-D). Additionally, the sessile nodules at the alveolar ridge were also removed. The mandibular denture was withheld to prevent further trauma for 7 days. Dipyrone 500 mg (6-6h) and chlorhexidine 0.12% rinses (12-12h) were prescribed. Histopathology confirmed Benign Fibroepithelial Hyperplasia, establishing the final diagnosis.

Regarding case follow-up, at the return appointment, the patient was evaluated for surgical wound healing, receipt of the histopathological results, return of the mandibular denture, and photographic records for clinical documentation (Figure 3A-B). Considering the definitive diagnosis and absence of malignancy, the patient was advised on the need for oral rehabilitation with a new mandibular complete denture, to be fabricated in a controlled environment with periodic follow-up, aiming to prevent recurrences and ensure an adequate quality of life for her age and systemic condition.

Figure 2. A. Intraoperative clinical view of the biopsy procedure for the first sample. **B.** Intraoperative view of the second sample. **C.** Intraoral trans surgical suture. **D.** Final clinical view with extraoral dressing.

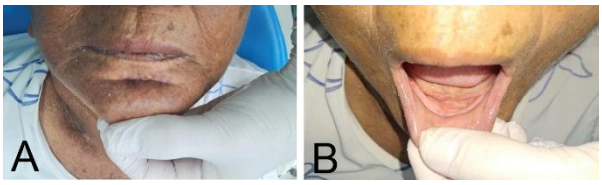

Figure 3. A. Extraoral final healing. **B**. Intraoral final healing.

3. DISCUSSION

In the present study, a clinical case is reported involving an elderly female patient who developed an association of benign fibroepithelial hyperplasia with an extraoral pathological communication, resulting in a rare orocutaneous fistula of traumatic origin caused by a mandibular complete denture. The main clinical, diagnostic, and therapeutic aspects of this rare condition were addressed, emphasizing its traumatic etiology of prosthetic origin. The study discussed the clinical recognition of the fistula, and the appropriate surgical management. Furthermore, it reinforced the need for a multidisciplinary approach and continuous postoperative follow-up to ensure proper healing, prevent recurrences, and promote functional and esthetic rehabilitation of the patient.

The clinical presentation of the orocutaneous fistula reported in this study shows similarities and peculiarities compared to descriptions found in the specialized literature. An orocutaneous fistula represents a pathological communication between the oral mucosal epithelium and the cutaneous surface, generally associated with chronic odontogenic infections, mandibular fractures, or surgical interventions[9,11,12]. However, the present case highlights a less common etiology — chronic trauma induced by a poorly adapted complete denture — a factor also reported as underestimated in the formation of reactive lesions of

the oral mucosa[13].

Histological changes involving mucosal tissue growth are defined as hyperplasias. Benign fibroepithelial hyperplasia is characterized by nodular growth of the oral mucosa, with fibrous tissue and inflammation. Chronic trauma, including poorly adapted prostheses, is the most reported etiological factor[14,15]. Benign fibroepithelial hyperplasia is among the most common lesions related to denture use[16]. Continuous use for more than 5 years, especially of complete dentures, predisposes to wear and surface irregularities that may cause trauma and localized lesions[16,17]. In this case, prolonged use of a maladapted mandibular denture was the primary causal factor for orocutaneous fistula.

Treatment depends on lesion extension. In this case, excisional biopsy with suture was sufficient due to the associated orocutaneous fistula. Despite being benign, such lesions require multidisciplinary management, as significant predisposing factors may lead to precancerous changes referral to prosthodontics aimed at eliminating the causal factor[5,18].

A relevant diagnostic challenge of orocutaneous fistula lies in the extraoral presentation, which may delay recognizing its oral origin. Lack of dental symptoms often misleads diagnosis toward dermatological conditions[12,19]. Awareness of its possible etiologies is essential to avoid ineffective treatments.

4. CONCLUSION

This case report describes an uncommon association of benign fibroepithelial hyperplasia with extraoral pathological communication caused by mandibular complete denture. Early diagnosis and etiological identification were fundamental for effective management. Multidisciplinary follow-up is crucial, especially in elderly patients, to prevent oral lesions and improve quality of life.

5. REFERENCES

[1] Furuta M, Komiya NM, Akifusa S, *et al.* Interrelationship of oral health status, swallowing function, nutritional status, and cognitive ability with activities of daily living in Japanese elderly people receiving home care services due to physical disabilities. Community Dent Oral Epidemiol. 2013 Apr;41(2):173-81.

[2] Alencar SM, Simão LC. A importância do uso da prótese dentária na melhoria da função estomatognática em pacientes com demência. Revista Cathedral. 2023 Aug; 5(3):8–17.

[3] Minic I, Pejcic A, Kostic M, Krunic N, Mirkovic D, *et al.* Prevalence of Oral Lesions in the Elderly. West Indian Med J. 2016 Feb 9; 65(2):375-378.

[4] Canger EM, Celenk P, Kayipmaz S. Denture-related hyperplasia: a clinical study of a Turkish population group. Braz Dent J. 2009; 20(3):243-8.

[5] Cicmil S, Janjić-Pavlović O, Stanojević M, *et al.* Denture-induced fibromatous hyperplasia - case report. Биомедицинска истраживања. 2023 Dec 27; 14(2):209–16.

[6] de Santana ST, Martins FPR, Piva MR, de Souza AES. Focal fibrous hyperplasia: A review of 193 cases. J Oral Maxillofac Pathol. 2014 Sep; 18(4)86-9.

[7] Rosenquist K. Risk factors in oral and oropharyngeal squamous cell carcinoma: a population-based case-control study in southern Sweden. Swed Dent J Suppl. 2005; (179):1-66.

[8] Guevara GE, Riera LL, Gómez MM, Amezcua RG, *et al.* Odontogenic cutaneous fistulas: clinical and epidemiologic characteristics of 75 cases. Int J Dermatol. 2015 Jan; 54(1):50-5.

[9] Dawson C, Gadiwalla Y, Martin T, *et al.* Factors affecting orocutaneous fistula formation following head and neck reconstructive surgery. Br J Oral Maxillofac Surg. 2017 Feb; 55(2):132-135.

[10] Tadokoro Y, Hasegawa T, Takeda D, *et al.* Factors Associated with Treatment Outcomes and Pathological Features in Patients with Osteoradionecrosis: A Retrospective Study. Int J Environ Res Public Health. 2022 May 27; 19(11):6565.

[11] Karina KC, Kalwar AG, Upadhyaha C, *et al.* Bilateral Orocutaneous Fistula Secondary to PericoronaClinical case reports 2025 Jan 13; 1(1):70017.

[12] Ohta K, Yoshimura H. Odontogenic cutaneous fistula of the face. CMAJ. 2019 Nov 18; 191(46):1281.

[13] Biondo B, Gajardo F, Piardi, M. *et al.* Hiperplasia Inflamatória Associada Ao Uso De prótese Total: Relato De Caso. BJ of Implantology and Health Sciences 2024; 6(5)448-54

[14] Drăghici EC, CrăiŢoiu Ş, Mercu Ţ V, *et al*. Local cause of gingival overgrowth. Clinical and histological study. Rom J Morphol Embryol. 2016; 57(2):427-35.

[15] Sánchez TA, Mota I, Alberdi NJ, et al. Inflammatory fibro-epithelial hyperplasia related to a fixed implant-supported prosthesis: A case report. J Clin Exp Dent. 2018; 10(9):945-948.

[16] Adam RZ, Kimmie-Dhansay F. Prevalence of Denture-Related Stomatitis in Edentulous Patients at a Tertiary Dental Teaching Hospital. Front Oral Health. 2021 Dec; 1(2):772679.

[17] Wang LL, Liu XH, Yang LM, *et al.* Clinical analysis of denture-related oral mucosal lesions in 185 patients with removable denture]. Shanghai Kou Qiang Yi Xue. 2020 Feb; 29(1):85-88.

[18] Coelho CM, Zucoloto S, Lopes RA. Denture-induced fibrous inflammatory hyperplasia: a retrospective study in a school of dentistry. Int J Prosthodont. 2000 Mar-Apr; 13(2):148-51.

[19] Chhabra A, Chhabra N. Dental Infection Mimicking Dermatological Lesion: Three Case Reports of Cutaneous Fistulae and Sinus Tracts on Face. Indian Dermatol Online J. 2018 Nov-Dec; 9(6):441-444.