

Case report

## Fibrous epulis - case report

**Marina Radanović<sup>1</sup>,  
Slavoljub Tomić<sup>1</sup>,  
Tanja Ivanović<sup>1</sup>,  
Ana Cicmil<sup>1</sup>,  
Jovana Hrisa Samardžija<sup>1</sup>,  
Srdjan Radanović<sup>1,2</sup>,  
Jelena Lečić<sup>1</sup>**

<sup>1</sup>University of East Sarajevo,  
Faculty of Medicine Foca,  
The Republic of Srpska,  
Bosnia and Herzegovina

<sup>2</sup>University Hospital Foca,  
The Republic of Srpska,  
Bosnia and Herzegovina

Primljen – Received: 20/12/2021  
Prihvaćen – Accepted: 26/04/2022

### Corresponding author:

Marina Radanovic, Senior Assistant  
Studentska bb, 73300 Foča  
marina.radanovic@ues.rs.ba

Copyright: ©2022 Marina Radanović  
et al. This is an Open Access article  
distributed under the terms of the  
Creative Commons Attribution 4.0  
International (CC BY 4.0) license.

### Summary

**Introduction.** Epulis is a change in gingival tissue that occurs under the influence of chronic irritation. Histologically, there are several different types of epulis. Fibrous epulis is benign tumor of gingiva that most often occurs in interdental papilla area as a result of local irritation (inadequate restorative fillings, carious teeth, subgingival deposits or the combination of them). The aim of this paper is to present a clinical case of fibrous epulis.

**Case report.** A 25-year-old girl reported to the Specialist Center for Dentistry in Foca. Clinical examination revealed a gingival tissue enlargement in the area of the upper jaw central incisors with speech and chewing function disturbances. Intraoral examination revealed a change above the level of gingiva, reddish-pink in color with smooth surface texture and soft consistency. The size of the change was 1 x 1.5 cm. It was connected to the interdental gingiva between teeth 12 and 21 by a narrower base. Clinically, a significant amount of soft and hard dental deposits surrounded the remaining teeth. Remaining gingiva was swollen, red, bleeding on provocation. The anamnesis did not confirm the presence of other acute and chronic diseases. The patient was not pregnant. She was informed about clinical condition assessment, as well as possible therapeutic procedures. Our patient was treated with non-surgical periodontal therapy and surgical excision of the enlargement. After histopathological examination of the removed tissue, the diagnosis was made: "Fibrous epulis cum ulceration".

**Conclusion.** Clinical examination is insufficient for definite diagnosis. Therefore, a histopathological examination of the tissue is mandatory for fibrous epulis definite diagnosis. Treatment of choice is surgical excision of the enlargement and removal of predisposing factors to avoid recurrence.

**Key words:** gingiva, epulis, central incisors

## Introduction

The most common mechanisms in the development of a soft tissue tumor-like lesion in the oral cavity are reactive hyperplasia and neoplasia, and most localized growths are thought to be reactive rather than neoplastic in nature [1]. Epulis is a relatively common tumor of gingival tissue and can be defined as a massive lesion that develops in response to chronic and recurrent tissue irritations that stimulate an excessive response of the organism. Most pathological

changes in gingival tissue are thought to be due to the reactive nature of the tissue [2].

Although epulis is classically categorized into different subtypes, the current literature has identified three main types: fibrous epulis, granulomatous epulis, and giant cell epulis [3]. Fibrous epulis is a common benign change (enlargement) of the gingiva that most often occurs in the area of the interdental papilla as a result of local irritation (calculus, bacterial plaque, caries, inadequate restoration) [4].

## Case report

A 25-year-old girl reported to the Periodontology Clinic - Specialist Center for Dentistry in Foca. The patient gave anamnestic data in which she reported the swelling of gingival tissue in the last year, which has increased since last month. The enlargement of the tissue caused her difficulties in performing the functions of chewing and speech, which is why she sought medical advice. On intra-oral examination, a reddish-pink, soft tissue change was observed on the upper alveolar arch on the vestibular side in the area of the central incisors. Enlargement of the tissue, 1 x 1.5 cm in size, was attached with a narrower base in the region of the interdental space of teeth 12 and 21. Clinically, a significant amount of soft and hard dental deposits was present surrounding the remaining teeth (Figure 1). The gingiva of the remaining teeth was swollen, red, bleeding on provocation. The anamnesis did not confirm the presence of other acute and chronic diseases. The patient was not pregnant. She was introduced to the clinical condition assessment, as well as possible therapeutic procedures. After giving her written consent to accept the offered therapeutic procedures, our patient was treated with conservative therapy of periodontium. After that, the enlargement was removed with a surgical scalpel under local anesthesia

without tooth extraction. A sample of gingival tissue was sent for histopathological analysis (Figure 2). At the follow-up examination, the surgical sutures were removed and the patient was advised to correct inadequate restorative fillings.



Figure 1. Fibrous enlargement of gingival tissue in the area of the upper central incisors



Figure 2. Gingival tissue sample sent for histopathological analysis

After pathohistological examination of the removed tissue, the diagnosis was made: "*Fibrous epulis cum ulceration*".

- **Radiological examination.** Orthopantomography revealed resorption of alveolar bone in the area of upper jaw central incisors interdental region and numerous restorative fillings (Figure 3).
- **Histopathological finding.** The mass of the excised tissue was 1.5 × 1 × 0.5 cm in size. It

had a grayish-white appearance and a firm consistency (Figure 3). Sections stained with hematoxylin and eosin revealed coatings of hyperplastic layered squamous epithelium and mild chronic inflammation consisting of lymphocytes and plasma cells. After a detailed histopathological examination, the diagnosis was made: *Fibrous epulis cum ulceration*.



Figure 3. Orthopantomographic image - before the interventions



Figure 4. Postoperative results

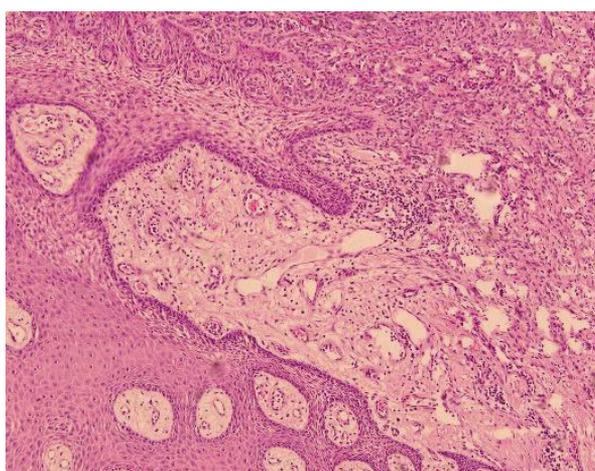


Figure 5. Histopathological image

- **Postoperative finding.** Clinical examination revealed proper healing of gingival tissue and sutures were removed. The patient was monitored postoperatively at regular intervals and three months after the operation, minimal scar tissue and healthy tissue were present around the site of the previous lesion (Figure 4).

## Discussion

Epulis is fibrous inflammatory hyperplasia that usually occurs as a result of gingival enlargement due to local irritation of the gums. Epulis is a lesion that does not respond to pain, but its presence causes difficulties in performing functions. In the oral cavity, most local irritants are physical and stimulate submucosal connective tissue, periodontal ligament, or periosteum [5]. Fibrous epulis occurs in response to local irritation with sharp edges (inadequate restorative fillings, carious tooth, or the presence of subgingival calculus). This common type of epulis often results from interdental papillae. The etiology of fibrous epulis, in this case, may be inadequate restorations and subgingival calculus, as chronic factors of irritation. As suggested by Peralles et al., another possible etiology of this lesion is local tissue irritation by bacterial agents and cellular products that induce tissue hyperplasia [6]. Most previous studies have shown that the frontal region, as seen in our case, of the oral cavity was more affected by gingival hyperplasia, ranging from 57% to 71% of cases [7], and this can be explained by the fact that these regions are drier, less exposed to oral moisture and therefore less exposed to saliva with all its positive characteristics. Fibrous epulis in the current case appeared in 25-year-old female patient. And according to most reports the epulis is more common in women [8]. This is probably caused by the high concentration of estrogen, which is considered a favorable factor for their formation and affects their growth. A study by Bataineh and Al-Dvairi [9]

showed that epulis often appeared in people between the ages of 21 and 60. The obtained results are in accordance with our case report where the change occurred in a patient in her twenties. In addition to aforementioned, the other study from Brazil had reported that females on their third to fourth decades of life were the predominant group affected by inflammatory gingival hyperplasia and that the most cases affected the anterior portion of the oral cavity [10]. Literature data indicates that females have greater knowledge about oral health, a more positive attitude toward dental visits, a healthier lifestyle and higher level of oral health behavior than males [11]. However, due to COVID-19 pandemic concerns, it took a year for our female patient to seek dental care when difficulties in performing the functions of chewing and speech became far too obvious for a month prior to a dental visit.

Epulis treatment involves excision of the gingiva, reconstruction, and removal of the source of irritation to prevent a recurrence. Our patient was treated with non-surgical

periodontal therapy (identification of dental deposits, motivation and education of proper oral hygiene maintenance, removal of dental deposits), surgical excision of the epulis and instructed to correct inadequate restorative fillings that contribute to chronic irritation and cause hyperplasia of gingival tissue.

## Conclusion

Although the etiology of gingival epulis has not been determined, continuous trauma due to the presence of soft and hard dental deposits as well as inadequate restorative fillings seem to be the main factor for the development of fibrous epulis in this case. Only clinical examination makes it difficult to diagnose, so histopathological examination of the tumor is mandatory to confirm the definitive diagnosis of fibrous epulis. The treatment of choice is surgical excision of the enlargement with its base and removal of predisposing factors to avoid recurrence.

**Funding source.** The authors received no specific funding for this work.

**Ethical approval.** The Ethics Committee of the Faculty of Medicine Foca approved the study and informed consent

was obtained from all individual respondents. The research was conducted according to the Declaration of Helsinki.

**Conflict of interest.** The authors declare no conflict of interest.

## References:

1. Pour MAH, Rad M, Mojtahedi A. A survey of soft tissue tumor-like lesions of oral cavity: a clinicopathological study. *Iran J Pathol* 2008;3(2):81–7.
2. Ajagbe HA, Daramola JO. Fibrous epulis: experience in clinical presentation and treatment of 39 cases. *J Natl Med Assoc* 1978;70(5):317–9.
3. Liu C, Qin ZP, Fan ZN, Zhao WJ, Wang YM, Wei FC, et al. New treatment strategy for granulomatous epulis: intralesional injection of propranolol. *Med Hypotheses* 2012;78(2):327–9.
4. Ohta K, Yoshimura H. Fibrous epulis: A tumorlike gingival lesion. *Cleve Clin J Med* 2021;88(5):265–6.
5. Singhal P, Namdev R, Sarangal H, Narang S. A Rare Case of non-Syndromic Congenital Idiopathic Gingival Fibromatosis: Electrosurgical Management. *J Clin Pediatr Dent* 2020;44(5):352–5.
6. Peralles PG, Viana AP, Azevedo AL, Pires FR. Gingival and alveolar hyperplastic reactive lesions: Clinicopathological study of 90 cases. *Braz J Oral Sci* 2006;5(18):1085–9.
7. Vijintanawan S, Kumar KC, Aittiwaraopoj A, Wongsirichat N. Hybrid Central Odontogenic Fibroma with Central Giant Cell Granuloma Like Lesion; A Case Report and Review of the Literature. *SMJ* 2019 Sep 20;71(5):426-31.
8. Rai A, Ahmad SA, Saleem M, Faisal M. Hybrid central giant cell granuloma and central ossifying fibroma: Case report and literature review. *J Oral Maxillofac Surg Med Pathol* 2019;31(4):258–63.
9. Bataineh A, Al-Dwairi ZN. A survey of localized lesions of oral A survey of localized lesions of oral tissues: a clinicopathological study. *J Contemp Dent Pract* 2005;6(3): 30–9.
10. Peralles PG, Viana APB, Azedevo ALR, Pires FR. Gingival and alveolar hyperplastic reactive lesions: clinicopathological study of 90 cases. *Braz J Oral Sci* 2006; 5(18):1085–9.
11. Furuta M, Ekuni D, Irie K, Azuma T, Tomofuji T, Ogura T, et al. Sex differences in gingivitis relate to interaction of oral health behaviors in young people. *J Periodontol* 2011;82(4):558–65.

## Fibrozni epulis - prikaz slučaja

Marina Radanović<sup>1</sup>, Slavoljub Tomić<sup>1</sup>, Tanja Ivanović<sup>1</sup>, Ana Cicmil<sup>1</sup>,  
Jovana Hrisa Samardžija<sup>1</sup>, Srđan Radanović<sup>1,2</sup>, Jelena Lečić<sup>1</sup>

<sup>1</sup>Univerzitet u Istočnom Sarajevu, Medicinski fakultet Foča, Republika Srpska, Bosna i Hercegovina

<sup>2</sup>Univerzitetska bolnica Foča, Republika Srpska, Bosna i Hercegovina

**Uvod.** Epulis je promjena na gingivi koja nastaje pod dejstvom hronične iritacije. Histološki postoji više različitih vrsta epulisa. Fibrozni epulis predstavlja benigni tumor gingive koja se najčešće pojavljuje u predjelu interdentalne papile kao rezultat lokalne iritacije (neadekvatni konzervativni radovi, kariozni zubi, subgingivalne naslage ili njihova kombinacija). Cilj rada je prikazati klinički slučaj fibroznog epulisa.

**Prikaz bolesnika.** Djevojka starosti 25 godina se javila u Specijalistički centar za stomatologiju u Foči. Kliničkim pregledom ustanovljeno je uvećanje gingivalnog tkiva u predjelu centralnih sjekutića gornje vilice sa smetnjama u obavljanju funkcija govora i žvakanja. Intraoralnim pregledom uočava se promjena iznad nivoa gingive, crveno-ružičaste boje, glatke površinske teksture i mekane konzistencije. Veličina promjene je bila 1 x 1,5 cm. Užom bazom je bila vezana za interdentalnu gingivu između zuba 12 i 21. Klinički je bila prisutna znatna količina mekih i čvrstih zubnih naslaga u predjelu preostalih zuba. Gingiva preostalih zuba je bila otečena, crvena, krvarila na provokaciju. Anamnezom nije potvrđeno prisustvo drugih akutnih i hroničnih oboljenja. Pacijentkinja nije bila u drugom stanju. Upoznata je sa procjenom kliničkog stanja, kao i mogućim terapijskim procedurama. Naša pacijentkinja je liječena nehirurškom terapijom oboljelog parodonticijuma i hirurškom ekscizijom promjene. Nakon patohistološkog pregleda odstranjenog tkiva, postavljena je dijagnoza: "*Fibrous epulis cum ulceration*".

**Zaključak.** Samo kliničkim pregledom je teško postaviti dijagnozu; zbog toga je histopatološki pregled tumora obavezan za potvrđivanje definitivne dijagnoze fibroznog epulisa. Izbor tretmana je hirurška ekscizija izrasline sa njegovom bazom i uklanjanje predisponirajućih faktora da bi se izbjegao recidiv.

**Ključne riječi:** gingiva, epulis, centralni sjekutići