European Journal of Research in Dentistry 2023; 7(3): 158-162
DOI: http://dx.doi.org/10.29228/erd.61

ORIGINAL ARTICLE / ARAŞTIRMA MAKALESİ

Plaut-Vincent Stomatitis: A Case Report

Plaut-Vincent Stomatitis: Bir Olgu Sunumu

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ABSTRACT

Necrotizing ulcerative stomatitis or Plaut-Vincent's Stomatitis is a complication of necrotizing ulcerative gingivitis that extends beyond the gingiva and is involved in other parts of the oral mucosa, with Fusiform bacillus, Borrelia vincenti and other anaerobic microorganisms being the most common associated bacteria. It starts with sore throat, bad smell in the mouth, bleeding gums in young adults with poor oral hygiene and decreased immune resistance. In this case, clinical findings of Plaut-Vincent Stomatitis belonging to a male patient are presented. In a 22-year-old male patient, erythematous, ulcers with irregular margins and grayish-white fibrin were observed in the soft tissue of the right third molar region of the mandible and in the buccal mucosa. The patient has halitosis, difficulty in swallowing, pain in the oropharynx, and lymphadenopathy. In the treatment of infected tissues, improvement was observed after systemic antibiotics and hydrogen peroxide mouthwash were applied for 6-7 days. Plaut-Vincent Stomatitis is frequently seen in young adults and poor oral hygiene, smoking, emotional stress, alcohol consumption and malnutrition are stated as etiological factors that predispose to this disease. Detection of ulcerated lesions in soft tissue examination is important in diagnosis and treatment.

Keywords: Necrotizing ulcerative stomatitis, Plaut-Vincent Stomatitis, Third molar, Oral Diagnosis, Treatment

ÖZ

Nekrotizan ülseratif stomatitis ya da Plaut – Vincent Stomatitisi nekrotizan ülseratif gingivitisin bir komplikasyonu olup gingivanın ötesine uzanarak oral mukozanın diğer bölgelerinde tutulum gösteren, Fusiform basillus, Borrelia vincenti ve diğer anaerobik mikroorganizmaların en yaygın ilişkili bakteriler olduğu tablodur. Ağız hijyeni iyi olmayan, immün direnci düşmüş genç erişkinlerde, boğaz ağrısı, ağızda kötü koku, dişeti kanamasıyla başlar. Bu olguda erkek hastaya ait Plaut – Vincent Stomatitisi klinik bulguları sunulmaktadır. 22 yaşında erkek hastada mandibula sağ üçüncü molar bölge yumuşak dokuda ve bukkal mukozada eritemli, ülserlerle birlikte düzensiz marjinler ve kirli beyaz, grimsi fibrin izlenmiştir. Hastada halitozis, yutkunmada zorluk, orofarenkste ağrı ve lenfadenopati mecvuttur. Enfekte dokuların tedavisinde 6-7 gün süreyle sistemik antibiyotik ve hidrojen peroksitli gargara uygulandıktan sonra iyileşme gözlenmiştir. Sıklıkla genç erişkinlerde görülmekle birlikte kötü ağız hijyeni, sigara, duygusal stres, alkol tüketimi ve yetersiz beslenme bu hastalığa zemin hazırlayan etiyolojik faktörler olarak belirtilmektedir. Hastalarda yumuşak doku muayenesinde ülsere lezyonların tespit edilmesi, tanı ve tedavide önem taşımaktadır.

Anahtar Kelimeler: Nekrotizan Ülseratif Gingivitis, Plaut-Vincent Stomatiti, 3.Molar Diş, Oral Diagnoz, Tedavi

INTRODUCTION

Plaut-Vincent's Stomatitis is a complication of necrotizing ulcerative gingivitis that extends beyond the gingiva and is involved in other parts of the oral mucosa, affecting <1% of the population. Trench mouth, acute necrotizing ulcerative gingivitis, necrotizing ulcerative stomatitis, fusospirochetal gingivitis, Vincent's stomatitis, and Vincent infection are additional names for this medical condition (Horning & Cohen, 1995).

Periodontal disease known as necrotizing ulcerative gingivitis (NUG) causes severe gingival ulcerations that may lead to the gradual destruction of the gingivae. Young people are more likely to have NUG, especially severely undernourished children and young adults who have HIV infection (Hu et al., 2015).

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Submitted / Gönderilme: 23.10.2023 **Accepted/Kabul:** 11.12.2023

An impaired capacity to handle psychological stress, immunosuppression, and tobacco use have all been reported to be substantially related epidemiologically with the emergence of NUG, according to prospective clinical research. It has been demonstrated that these variables reduce the host immunological response, which promotes bacterial pathogenicity. Psychological stress decreases salivary flow and gingival microcirculation while increasing adrenocortical secretions, which can change how polymorphonuclear leukocytes and lymphocytes operate. This affects the patient's behavior and mood as well as the immunological response, leading to poor dental hygiene, malnutrition, and increased tobacco use. (Pitzura & Loos, 2020, Aaron & Deblois, 2023).

Despite a low prevalence, this disease has a strong clinical significance because it is the most serious ailment linked to the dental biofilm. Fusiform and spirochete bacteria are mostly linked to NUG, which is frequently caused by an opportunistic bacterial infection (Alshagroud et al., 2023).

NUG is primarily defined by the presence of necrosis/ulcer of the interdental papillae, gingival bleeding, and pain. Secondary symptoms include halitosis, pseudomembrane formation, regional lymphadenopathy, fever, and sialorrhea. According to studies, the interdental papilla necrosis or ulcer, gingival bleeding, discomfort, pseudomembrane development, and halitosis were the most important clinical findings. There were extraoral symptoms including adenopathy or fever. Children were more likely to experience fever, adenopathy, and sialorrhea than they were to experience pain or bad breath. (Sivapathasundharam et al., 2018; Khademi & Aryan, 2015).

Many viral diseases as well as other bacterial conditions might cause diagnosis to be misinterpreted. Bacterial infections like gonococcal or streptococcal gingivitis, infectious mononucleosis, acute herpetic gingivostomatitis, as well as some mucocutaneous conditions like multiforme erythema, desquamative gingivitis, and pemphigus vulgaris, should be taken into consideration for a differential diagnosis (Malek et al., 2017).

Treatment should be administered in stages: first, the acute phase should be treated; next, the underlying condition should be treated; and last, the disease's aftereffects should receive corrective treatment. Finally, the phase of support or maintenance (Dufty et al., 2017).

Two key goals of therapy for the acute phase are to stop the disease process and tissue damage and to regulate the patient's overall pain and discomfort, which interferes with nutrition and maintaining good oral hygiene. These goals can be reached through thorough superficial ultrasonic debridement and chemical detersion of the necrotic lesions using oxygen-releasing chemicals ''local oxygen therapy''. If a debridement response is inadequate or systemic effects are present, systemic antimicrobials may be used. Since metronidazole is effective against stringent anaerobes, it can be a good first choice medication. Other systemic medications, such as penicillin, tetracyclines, clindamycin, amoxicillin, or amoxicillin plus clavulanate, have also been proposed with positive outcomes. Because of the numerous bacteria present in the tissues, where the local medicine will not be able to acquire acceptable concentrations, locally given antimicrobials are not advised. Patients with immunodepression who are receiving antibiotic therapy should use antifungal medications (Herrera et al., 2014; Folayan, 2014).

The prior chronic condition, such as preexisting chronic gingivitis, should be treated once the acute phase has been brought under control. It is important to enforce oral hygiene guidelines and incentive. Predisposing local variables that already exist, like partially impacted teeth and overhanging restorations, should be carefully assessed and addressed. Smoking, getting enough sleep, and reducing stress are all systemic predisposing variables that should be regulated and taken into account. In some cases, the illness's changed gingival topography should be corrected since gingival craters may encourage plaque buildup and disease recurrence. Gingivectomy and/or gingivoplasty techniques, periodontal flap surgery, or even regenerative surgery, may be beneficial for treating superficial craters. Additionally, this phase's primary objectives are managing the risk factors and adhering to the recommended dental hygiene routines (Brad et al., 2019; Santos et al., 2020).

A considerable amount of epidemiologic data indicates that Plaut-Vincent's disease occurs primarily to individuals who have been subjected to stress, immunosuppression, malnutrition, poor oral hygiene, and smoke. Yet, we present a case of a young male patient with only poor oral hygiene and smoking that leads a severe necrotising stomatitis companied by lymphadenopathy.

CASE REPORT

A 22-year-old male patient presented at the Department of Oral and maxillofacial Radiology at Marmara University Faculty of Dentistry with complaints of difficulty in swallowing and pain around the right retromolar region. He also had halitosis, pain in the oropharynx and lymphadenopathy in submandibular lymph nodes. Patient had a poor plaque control without any parafunction and had no other significant medical history or known allergies. He was smoking a pack of cigarettes a day. Intraoral examination showed erythematous, ulcers with irregular margins and grayish-white fibrin in the soft tissue of the right retromolar region of the mandible and in the buccal mucosa (Fig. 1). Panoramic radiography image revealed the partially impacted third molar existence in both sides and multiple caries caused by poor oral hygiene (Fig. 2). In the treatment of infected tissues, systemic antibiotics and hydrogen peroxide mouthwash were applied for 6-7 days and extraction of the third mandibular molar tooth was recommended. In this case, the patient was referred to us due to his acute condition and he went to another clinic out of the city for dental treatment. After 1 week of antibiotic and mouthwash use, improvement was observed in the related lesion (Fig. 3).

Figure 1: Patient's intraoral examination; along with the halitosis and limited jaw movements, an erythematous area covered with fibrin was observed on retromolar area.

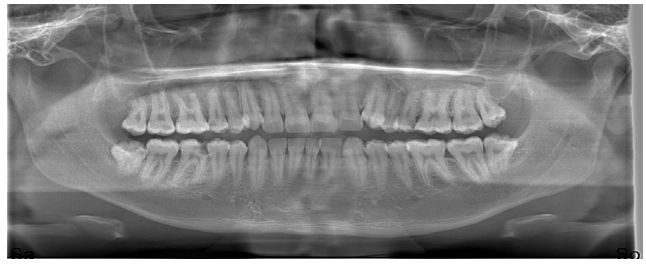

Figure 2: Patient's panoramic image; partially impacted third molar which triggered the stomatitis can be seen

Figure 3: Patient's intraoral image within a week; after the systemic antibiotics and regular mouthwash treatment combined with oral hygene and diatery regulation, lesion healed.

DISCUSSION

An endogenous polymicrobial infection called Vincent's stomatitis primarily affects those who have weakened immune systems. Pioneers Plaut and Vincent independently identified the disease's link with the fusiform-spirochete in the 1890s. The most common word for the acute ulcerative condition affecting the gingiva is acute necrotizing ulcerative gingivitis, and the term used for fuso-spirochetal infection of the oropharynx and throat, with a severe membranous ulceration of the throat, is Vincent's angina (Mizrahi 2014; Stoker & Gauer, 2021).

Despite the fact that there are precise diagnostic requirements for the diagnosis of necrotizing stomatitis, patients may display vague signs and symptoms or only meet some of the requirements. numerous studies stress the

importance of preventing periodontitis and the necessity of individualized interventions (Tonetti et al., 2015).

With this method of treatment, ulcer healing can be anticipated in a couple of days and the condition is typically stopped in its tracks with adequate treatment. However, if untreated, disorders like necrotizing ulcerative periodontitis (NUP) and even cancrum oris (noma), which can be fatal, can worsen and become more severe (Khammissa et al., 2022).

The most common anaerobic bacteria now being associated with necrotizing periodontal illnesses include Treponema and Selenomonas spp., Prevotella intermedia, Fusobacterium nucleatum, Porphyromonas gingivalis, and Fusobacterium necrophorum. Numerous predisposing variables, including poor oral hygiene, smoking, mental stress, nutritional inadequacy, systemic disorders, or a compromised immune system, have been hypothesized for the etiology of necrotizing periodontal diseases (Yousefi et al., 2020; Ferrisse et al., 2019).

Pain, ulceration, and bleeding are the diagnostic triad for necrotizing periodontal diseases. Halitosis, pseudomembranes, a "wooden" sensation in the teeth, a metallic taste, tooth mobility, ropy saliva, lymphadenopathy, fever, and malaise are some of the secondary clinical indications of necrotizing periodontal diseases (Marty et al., 2016; Kashyap & Kashyap ,2022). Even while clinical characteristics differ from patient to patient, our patient had some of the most typical characteristics such as pain, ulceration covered with pseudomembrane, halitosis and lymphadenopathy.

Kashyap and Kashyap (2022) presented a case of Vincent's stomatitis with the acute ulcerative involvement of gingiva and pseudomembranous ulceration of tonsils in a general medical practitioner. Antibiotics such as penicillin and metronidazole are the medications of choice due to the microbial nature. Yet, Khademi and Aryan (2015) reported a 17-year-old girl who experienced emotional stress and developed signs of Vincent's angina. Clinical improvement was not much found with antibiotic medication, amoxicillin and cephalexin, although improvement was attained with mouthwash and salt water. The management should concentrate on removing local causes and microbial buildup. As a result, we seek non-surgical treatment for the issue. Antibiotics like metronidazole and penicillin are the preferred treatments due to the microbial nature of the condition (Özbayrak 2010). However, systemic antibiotics do not completely remove local etiological variables. Using antibacterial mouthwashes with 0.12% chlorhexidine can assist to locally control the infection. After the acute phase has passed, surgical debridement and recontouring are typically advised (Martos et al., 2019; Özberk et al., 2018).

CONCLUSIONS

Plaut-Vincent Stomatitis is frequently seen in young adults and poor oral hygiene, smoking, emotional stress, alcohol consumption and malnutrition are stated as etiological factors that predispose to this disease. Detection of ulcerated lesions in soft tissue examination is important in diagnosis and treatment. Clinicians face a diagnostic challenge when treating necrotizing ulcerative gingivitis and the variety of gum disease presentations, which is best handled by an interprofessional team approach.

ACKNOWLEDGEMENTS

This case report was presented as a poster presentation in 4th International Congress of Oral Diagnosis and Maxillofacial Radiology Society that was held on 19-23 October,2022.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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How to cite this article: Ünal SY, Keser G, Pekiner FN. Plaut-Vincent Stomatitis: A Case Report. European Journal of Research in Dentistry, 2023;7(3): 158-162. DOI: http://dx.doi.org/10.29228/erd.61