



## Therapy for a Patient with Periodontal Abscess: Case Report

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### Abstract

The periodontal abscesses are localized purulent infections of periodontal tissue. The periodontal abscess is the third most frequent dental emergency and it is specially prevalent among untreated periodontal patients and periodontal patients during maintenance. In this article, a patient with periodontal abscess due to poor oral hygiene was treated periodontally 3 days after the start of antibiotic therapy. Periodontal maintenance therapy was provided every 2 weeks. The clinical features and likely healing results of the lesion were discussed and related literatures were reviewed.

**Keywords:** Periodontal abscess; Periodontal pocket; Suppuration; Anti-bacterial agents; Periodontal atrophy; Periodontal debridement

### Introduction

The periodontal abscess, which is a localized purulent infection of the periodontal tissues adjacent to a periodontal pocket, is a frequent periodontal condition in which periodontal tissues may be rapidly destroyed [1,2]. The major symptoms of a periodontal abscess are spontaneous or evoked pain, gingival or mucosal swelling, affected tissue appears red or reddish blue [1-4]. Affected teeth typically experience rapid periodontal tissue destruction with deep pocket formation, frequently become hypermobile, and may sometimes extrude from the alveolar socket [4]. Suppuration may appear spontaneously or after incision of the abscess [3,4]. The diagnosis of a periodontal abscess is based on information from patient history and clinical and radiographic examinations. The lesions may be acute or chronic [5]. Differential diagnosis between abscesses of periodontal and endodontic origin can be made on the basis of pulp vitality, the presence of deep periodontal pockets versus dental caries, the location of the abscess, radiographic examination, and the response to periodontal therapeutic intervention [5]. This infection occurs in the walls of periodontal pockets as a result of the invasion of bacteria into the periodontal tissues. Different etiologies have been proposed and two main groups can be distinguished depending on its relation with periodontal pockets [5-9]. In the case of a periodontitis-related abscess, the condition may appear as an exacerbation of a non-treated periodontitis or during the course of periodontal therapy [10]. In non-periodontitis-related abscesses, impaction of foreign objects, and radicular abnormalities are the two main causes [10-11]. The abscess microflora seems to be similar to that of adult periodontitis, and it is dominated by gram-negative anaerobic rods, including well-known periodontal pathogens [12]. Periodontal abscesses are termed 'mixed anaerobic infections', based on microbiological findings [2,3]. Herpesvirus and *Candida* species can also be recovered from periodontal abscesses [6,7]. The

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Figure 1: Clinical view of the periodontal abscess.



Figure 2: A probe inserted through the sulcus, periodontal pocket.



Figure 3: Occlusal radiograph.



Figure 4: Panoramic radiograph.



Figure 5: Clinical view at the time of periodontal surgery.



Figure 6: Postoperative result 8 weeks following periodontal therapy.

periodontal abscess is the third most prevalent emergency infection (6% to 7%), after acute dento-alveolar abscess (14% to 25%), and pericoronitis (10% to 11%) [9-10]. Complications and consequences include tooth loss and the spread of the infection to other body sites [5-8]. In fact, abscess formation in the periodontium is a relatively rare occurrence [3].

### Case Presentation

In March 2015, a 38-year-old Turkish male (weight: 78.4 kg; height: 1.76 m) with severe pain, swelling, excessive gingival bleeding, refractory gingival reddish, tenderness to even slight palpation on the upper anterior region, which was interfering with normal eating, brushing and speaking, was admitted to the Department of Periodontology, Faculty of Dentistry at Atatürk University. He claimed to be in relatively good health and had not a history of drug and food allergies. He did not smoke and did not take alcoholic beverages. The patient reported that he had a severe toothache of maxillary right incisors teeth the night before. The extraoral examination revealed a dismorphic face. The temperature measured 38.7°C, pulse was 74 beats per minute, and blood pressure was 114/78 mmHg. In addition, a few enlarged and tender lymph nodes were present bilaterally in the submandibular areas. The intra-oral examination revealed that he was suffering from severe pain, swelling, gingival bleeding and dysfunction. There was a heavy accumulation of dental plaque, the gingival tissues were swollen (Figure 1). Periodontal pocket was measured as 9 mm in facial of mandibular right central and lateral incisors (Figure 2). A occlusal radiograph showed localized alveolar bone resorption with localized angular defects on the right anterior teeth sites (Figure 3). The location and degree of resorption was correlated with inflammatory sites. A panoramic radiograph showed generalized alveolar bone resorption with localized angular defects on the molar teeth sites, indicating the presence of chronic periodontitis (Figure 4). After having undergone clinical examinations, he was

diagnosed as having “acute periodontal abscess”. Written informed consent was obtained from the patient after all treatment procedures had been fully explained. At the conclusion of her periodontal examination, the supragingival irrigation with chlorhexidine were done carefully to remove any local irritating factors that may have been responsible for the gingival inflammation. The patient was prescribed antibiotics (amoxicillin 1,000 mg, every 8 hours, 3 days), analgesics (Naproxen 550 mg, every 12 hours, 3 days) and instructed to rinse twice daily with 0.12% chlorhexidine oral rinse for 2 weeks. Three days later, the affected regions of gingiva appeared less painless. Thereafter, a thorough supra- and sub-gingival scaling, root planning and crown polishing were performed carefully and pü was careful drained via probing from the pocket. Twelve days later a full-thickness buccal flap was elevated and curettage was performed (Figure 5). Four weeks following surgical periodontal therapy, the affected area had completely healed, there were no gingival reddish, bleeding and swelling, and no lymphadenopathy was noted (Figure 6). He was encouraged to practice good oral hygiene with a soft-bristle toothbrush. He has been visiting a periodontist regularly for two years since that time.

## Discussion

Periodontal abscesses are the most common type of abscesses including the periodontium. Its importance is based on the possible need of urgent care, the affectation of tooth prognosis, and the possibility of infection spreading [1-6].

In the related literature, there is scant information in the scientific literature regarding this condition, and most of it has been published as case reports and text books, where conclusions are not evidence-based, but rather empirical observations made by recognised clinicians [6-9]. In the present case, periodontal abscess was associated with subgingival calculus and periodontal pocket. A diagnosis of periodontal abscess should be made after an overall evaluation and interpretation of the patient's chief complaint, medical-dental history, and clinical and radiographic examinations. Periodontal abscess can be treated with draining, scaling-root planing, curettage and giving antibiotics, and routine surgical technics [5,8-12], as was showed in this case.

## Conclusion

Diagnosis and treatment of periodontal abscess are mainly based on empiricism, since evidence-based data are not available. To maintain periodontal health and to correct the esthetics, their pathology should be treated.

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