

# The management of patients with periodontal disease and anxiety – case report

Ruxandra Andreea Iarca<sup>1</sup>, Bianca Margareta Mihai<sup>2</sup>, Teodor Salmen<sup>3,4</sup>, Vlad Dima<sup>2</sup>,  
Roxana-Elena Bohiltea<sup>5</sup>

<sup>1</sup> Department of Periodontology, "Titu Maiorescu" University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup> Department of Obstetrics and Gynecology, "Filantropia" Clinical Hospital, Bucharest, Romania

<sup>3</sup> Doctoral School, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania,

<sup>4</sup> "N.C. Paulescu" National Institute for Diabetes Mellitus, Nutrition and Metabolic Disorders, Bucharest, Romania

<sup>5</sup> Department of Obstetrics and Gynecology, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

## ABSTRACT

The worldwide high prevalence, alongside both modifiable and unmodifiable risk factors and local causal factors of the periodontal disease lead to bone and periodontal gum attachment loss. It is not considered a systemic disease but there are pathological influences between general diseases such as diabetes mellitus and periodontal disease. Anxiety of dental settlement is a main factor that prevent patients from addressing to a regular follow-up or, worse, to obtain the personalized treatment from the beginning of dental conditions.

We present a case of a 24-year-old male that postponed his presentation to dentist until pain prevented him from a proper sleep. He required a complete history and clinical examination in order to identify his dental emergency and, also, the dentist anxiety he developed during his lifetime. His management required a complex treatment, fractioned in multiple session, in order to help him overcome his anxiety and to obtain a good outcome. The case particularity include the lack of proper oral hygiene, due to the acute and/or chronic pain that the patient encountered, alongside with the fear of the dentist and the dental office, that delayed the presentation to a specialist to the moment when pain was unbearable and represented a medical emergency.

**Keywords:** dentist, anxiety, personalized management, periodontal disease

## INTRODUCTION

Periodontal disease greatly affects the world's population with a prevalence ranging between 20-50% and was, firstly, highlighted 5,000 years ago (1). The patient's confidence in the dental system is frequently sabotaged by the perceived discomfort derived from the necessity to come to regular check-ups, so they return to the dental office, brought by a dental emergency and full of fear because of their critical situation.

Risk factors for periodontal disease are independent and modifiable, such as alcohol consumption and smoking; or unmodifiable, such as heredi-

ty, low dietary calcium and vitamin A, D, B1, B2, PP and C and disorders of the nervous system – anxiety, depression, stress; endocrine dysfunction, immunodeficiencies, osteoporosis, obesity, diabetes mellitus or metabolic syndrome; alongside the local causal factors, such as bacterial plaque; and favoring factors such as dental calculus, dental caries, edentation, occlusal trauma, dento-maxillary anomalies and stress, determine destruction of the periodontal tissue, leading to bone loss and loss of periodontal gum attachment (2,3).

Chronic periodontal disease is an oral condition located at the level of the superficial periodontium

Corresponding author:

Teodor Salmen

E-mail: teodor.salmen@gmail.com

Article History:

Received: 20 November 2021

Accepted: 27 November 2021

of the gum and respectively, in the deep periodontium, the support tissue (4). It is not considered a systemic disease but there are pathological influences between general diseases such as diabetes mellitus and periodontal disease (5).

In order to be able to prevent, the periodontal damage, we need to know what is periodontal health, thus, periodontal health involves an absence of a previous or present history of any signs of periodontal disease (6,7). Moreover, periodontal health is described by the light pink color of the gums, but in case of oriental and Mediterranean people the color of the healthy gums can vary from dark brown to black, due to the pigment called melanin existing in excess in the gingival epithelium (7,8).

The appearance of the gingival surface of the fixed gum area should be stippled or like an orange peel, the consistency of the gum should be firm at the level of the fixed gum and to have a lax consistency at the level of the free gingival margin and at the papilla (8). Also, the free gingival margin should be located at the cemento-enamel junction when the gums are healthy (9).

Objectively, periodontal health involves the absence of bleeding on probing, of bacterial plaque, of the supragingival and subgingival calculus, of gingival retractions, of periodontal pockets and of dental mobility (7,10).

So, the first clinical sign of periodontal damage is the gingival inflammation associated with gingival bleeding even when brushing. For the dentist it is important to conduct a thoroughly anamnesis of the patient, in order to obtain the beginning of appearance of periodontal disease, clinical signs and symptoms from the patient, in parallel with complementary exams, such as a mouth radiography, in order to be able to make a complete and correct diagnosis and to provide an individualized treatment for each patient (11-13). Despite the regular anamnestic, clinical and paraclinical assessment, when approaching an anxious patient, the case management requires increased attention from the clinician, with a thorough understanding of the patient's fears, needs and a good communication and multi-step treatment (11).

The issue about anxiety regarding only the dentist, or only the dental office, or of both, clinician and office, often leads the patient to ignore, even, for long periods of time, quite serious problems, until unsupportable pain occurs, leading to an altered quality of the daily life of the patient and, eventually, requires an integrated dentist approach (12). This is how many patients who are afraid of dentist have neglect their oral hygiene and presented to the clinician when the visit is indispensable due to pain, and, eventually, requires a complex management, with more than only one therapeutic resource (13).

One explanation for the fear of dentists has origin in the previously unpleasant experiences that the patients undergone, so a warm communication with emphasize on the effort for understanding the patients' needs is mandatory and can be critical in these circumstances, in order to obtain the best outcome (12).

We present a case of a patient who addressed the dental office for pain and after a thoroughly examination, the clinician identified a dental emergency, respectively, an acute pulpitis of a 36<sup>th</sup> tooth, so an emergency treatment was performed, in order to alleviate the pain.

## CASE PRESENTATION

A 24-year-old male presented to the dental clinic with pain in 3<sup>rd</sup> quadrant near the mandibular first molar. After a detailed anamnesis, the patient described that the pain initiated several days ago, with a throbbing and continuous character and that it prevented him from sleeping at night. At the clinical examination, we assessed that the pain source originated in a deep dental caries that had reached the pulpal chamber's level with irritation in pulpal chamber of the first mandibular molar, causing the condition called irreversible pulpitis. We performed an emergency treatment, respectively, endodontic treatment of the teeth and because of the difficult approach and local status, it required to be administered in successive sessions.

From the conversation between clinician and patient in the first visit, we depicted that the patient presented fear of the dental environment, but this anxiety ameliorated after the pain started to decrease in intensity. Because of the considerable quantitative dental calculus deposits, that covered the occlusal and vestibular surfaces of the molars and premolars teeth's, the patient was prevented from eating on the right side as shown in Figure 1.



**FIGURE 1.** Quantitative dental calculus deposits, that cover the occlusal and vestibular surfaces of the molars and premolars teeth's



**FIGURE 2.** Inflammation and dental plaque biofilm at the gums level of the frontal maxillary group of the jaw



**FIGURE 3.** Dental plaque and generalized gingival inflammation

On the second session, due to the presence of inflammation and dental plaque biofilm at the gums level of the frontal group of the maxillary jaw, as shown in Figure 2 and the presence of dental plaque and generalized gingival inflammation as shown in Figure 3, and due to the fact that the patient had never done a professional hygiene treatment, because of his fear of dentists, a supragingival scaling treatment was administered.

In a further session we realized the subgingival scaling and root planning, as seen in Figure 4. In order to provide a complete treatment we decided to eliminate all the iatrogenic factors that maintain the periodontal disease, so, as you can see in the radiograph examination from Figure 5, we proceed to the extraction of 55<sup>th</sup> tooth, a temporary tooth still present on the arcade, due to the anodontia of the second premolar because he presented a third degree grade of mobility alongside with the extraction of the restant root of the 75<sup>th</sup> tooth.

The further case management involve restoration of all the affected teeth by dental caries with the help of composite restitutions and with dental crowns of zirconia-ceramic, in case of severe loss of tooth substance. Secondary, for the dental arches occlusal function restoration and for the closure of



**FIGURE 4.** The periodontal appearance after scaling and root planning



**FIGURE 5.** Panoramic scanning radiograph examination of the upper and lower jaws

the edentulous area, there were two possible treatment choices: first one is the appliance of two dental implants and two dental zirconia-ceramic crowns over the implants and the second one is represented by an orthodontic treatment, the latter being the chosen because of its long-term better outcome, but most important, because the management included, also, the patient, and we respected his choice.

The patient has been instructed how to maintain a proper hygiene and a correct tooth brushing, how to use all of the additional measures for dental plaque removing and how to eliminate the food debris by using dental floss, oral irrigator and by brushing his tongue from posterior to anterior.

## DISCUSSION

Anxiety is an emotional state and in case of patients that develop dental conditions, is the key element that makes them avoiding presenting to dentist office in order to a basic check-up or, in most serious case, in order to solve their dental problems in the behalf of a previous history of unpleasant experiences (12,14).

What is more important is the fact that anxiety of dentist for reasons such as the anathema that dentists undergone their maneuvers without sedation, lead to development of acute and severe dental condition (15).

Managing successfully a patient with anxiety towards the dentist require, essentially, a proper communication and emphasize on the empathy of the dentist, in order to gain the patient's trust and, may benefit, also, from splitting the treatment in multiple sessions (11,16,17).

## CONCLUSIONS

The particularity of this case consists not only in the lack of proper oral hygiene, due to the acute and/or chronic pain that the patient encountered, but also it is about the fear of the dentist and the

dental office, that delayed the presentation to a specialist to the moment when pain was unbearable and represented a medical emergency.

So, the personalized case management, with attention paid to the patient needs and feelings, in a case of severe lesions, led to a complete and correct treatment and, what is more important, is the fact that the patient realized the importance of the dental health maintenance, faced to the complex treatment he required alongside with the fact that he overcome his anxiety for dentist.

## REFERENCES

- Nazir M, Al-Ansari A, Al-Khalifa K, Alhareky M, Gaffar B, Almas K. Global Prevalence of Periodontal Disease and Lack of Its Surveillance. *ScientificWorldJournal*. 2020 May 28;2020:2146160.
- Genco RJ, Borgnakke WS. Risk factors for periodontal disease. *Periodontol* 2000. 2013 Jun;62(1):59-94.
- Penoni DC, Vettore MV, Torres SR, Farias MLF, Leão ATT. An investigation of the bidirectional link between osteoporosis and periodontitis. *Arch Osteoporos*. 2019 Aug 23;14(1):94.
- Highfield J. Diagnosis and classification of periodontal disease. *Aust Dent J*. 2009 Sep;54 Suppl 1:S11-26.
- de Miguel-Infante A, Martinez-Huedo MA, Mora-Zamorano E, Hernández-Barrera V, Jiménez-Trujillo I, de Burgos-Lunar C, Cardenas Valladolid J, Jiménez-García R, Lopez-de-Andrés A. Periodontal disease in adults with diabetes, prevalence and risk factors. Results of an observational study. *Int J Clin Pract*. 2018 Nov 16:e13294.
- Lang NP, Bartold PM. Periodontal health. *J Periodontol*. 2018 Jun;89 Suppl 1:S9-S16.
- Highfield J. Diagnosis and classification of periodontal disease. *Aust Dent J*. 2009 Sep;54 Suppl 1:S11-26.
- Araujo MG, Lindhe J. Peri-implant health. *J Periodontol*. 2018 Jun;89 Suppl 1:S249-S256.
- Vandana KL, Haneet RK. Cementoenamel junction: An insight. *J Indian Soc Periodontol*. 2014 Sep;18(5):549-54.
- Ridgeway EE. Periodontal disease: diagnosis and management. *J Am Acad Nurse Pract*. 2000 Mar;12(3):79-84.
- Armfield JM, Heaton LJ. Management of fear and anxiety in the dental clinic: a review. *Aust Dent J*. 2013 Dec;58(4):390-407; quiz 531.
- Seligman LD, Hovey JD, Chacon K, Ollendick TH. Dental anxiety: An understudied problem in youth. *Clin Psychol Rev*. 2017 Jul;55:25-40.
- Lin CS, Wu SY, Yi CA. Association between Anxiety and Pain in Dental Treatment: A Systematic Review and Meta-analysis. *J Dent Res*. 2017 Feb;96(2):153-162.
- Eitner S, Wichmann M, Paulsen A, Holst S. Dental anxiety--an epidemiological study on its clinical correlation and effects on oral health. *J Oral Rehabil*. 2006 Aug;33(8):588-93.
- Renton T. Introduction to Pain. *Prim Dent J*. 2019 Feb 19;7(4):17-21.
- Yamalik N. Dentist-patient relationship and quality care 2. *Trust. Int Dent J*. 2005 Jun;55(3):168-70.
- Manfredi M, Figini L, Gagliani M, Lodi G. Single versus multiple visits for endodontic treatment of permanent teeth. *Cochrane Database Syst Rev*. 2016 Dec 1;12(12):CD005296.