

# PROFESSIONAL EMISSIONS IMPACT ON MARGINAL PERIODONTIUM - PRESENTATION OF CASE

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**Abstract:** The article presents the changes that occur in the marginal periodontium as the unfavorable impact of exposure to occupational hazards such as paint vapors, various galvanic solvents, vibration and dust. Full and complex diagnosis is made after analysis and correlation of historical data obtained with radiographic and clinical examinations of the oral cavity. Marginal periodontium damage is major and marked resorption causes alveolar process, gingival retraction and pathological mobility of teeth while leading to the abolition of the dentomaxillary device functions

**Cuvinte cheie:** noxe, vibrații, parodonțiu, cavitate orală

**Rezumat:** Articolul prezintă modificările care apar la nivelul parodonțiului marginal sub impactul nefavorabil al expunerii la noxe profesionale de tipul vapori de vopsea, diverși solvenți galvanici, vibrații și praf. Stabilirea unui diagnostic complet și complex se face după analiza și corelația dintre datele anamnestice obținute împreună cu examinările radiografice și cele clinice de la nivelul cavității orale. Afectarea parodonțiului marginal este majoră și determină resorbție marcantă a proceselor alveolare, retracții gingivale și mobilitatea patologică a dinților ce duc în timp la abolirea funcțiilor aparatului dento-maxilar.

## INTRODUCTION

Oral health affects general health, so it is important if in the oral cavity there are pathological processes that may endanger the systemic homeostasis. [7]. Periodontal tissue is a mirror reflecting the oral health status and any changes at this level affects the respiratory system and digestive function and hence the stomatognathic system. Marginal periodontium is composed of all the anatomical elements that ensure the maintenance and support the teeth in the oral cavity, respectively maxillary bones. Marginal periodontium extends from the edge fixed gum from the package that tooth (in circumstances where there is no inflammatory or traumatic processes that can cause gingival proliferation or retraction) by apical area (not a precise anatomical determination). If pathology is likely endodontic apical periodontium (most times, the complications arising from coronary damage by trial pits), marginal periodontium pathology is given by evolving chronic disease starting point most frequently in the gingival groove interdental papillae and [4,5]

Etiologic agents of periodontal diseases can be classified as follows:

### I. General factors

1. Genetic: constitutional predisposition
2. Immune low body defense capacity
3. Metabolic: diabetes
4. Hormones endocrinopathies
5. Connective tissue disease
6. Central nervous system disorders
7. Disorders of the TMJ that induce occlusal trauma and / or nocturnal bruxism
8. Deficiency states: Hypovitaminosis
9. External factors: occupational intoxication with different chemicals [1,2,3]

### II. Local factors

1. Cause: muco-bacterial plaque

2. promote: tartar, occlusal trauma, bruxism, edentations, malocclusions, dental prostheses vicious habits unsuitable to the marginal periodontium.[1,4,6]

## CASE PRESENTATION

Patient aged 45 years presented in the ambulatory clinic for dental visits because of the mobility observed over the years increasingly more pronounced front lower teeth.

Historical data show that periodontal disease is slowly progressive nature, which led in time to loss of dental units, others migration and mobility of second-degree lower front group. Also, relevant to a diagnosis and then a treatment plan that the patient is over 10 years working in a toxic environment, being exposed to certain chemicals considered to be professional hazards, such as paint vapors, various galvanic solvents, vibration and dust, in a warm microclimate. [1,3]

X-ray gives the following data on the orthopantomography observable in analysis Figure 1:

### I. In the maxillary arch

- an absence of the second and third molars on the arcade
- an absence of a right upper premolars, with its corresponding closed space
- a secondary cavity fillings and processes in the molars and incisors
- one remaining root of two upper premolars left with periapical granuloma
- a generalized bone resorption of teeth roots to mid-frontal group and close to area of molars furcation whose apex is just below the lining of the sinus

### II. The mandibular arch:

- an absence of two premolars and molars on both a hemiarcade, migration by mesial translation and tilt to more than 45 degrees the second molar
- a scrap of second molar root on both hemiarcade
- a generalized bone resorption by apical third of tooth roots

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## CLINICAL ASPECTS

- and in the front group of the molars function
- an absence of three lower right molar
- a cavity filling is from the marginal carious process on the lower left molar crown

**Figure no. 1. The appearance of chronic marginal periodontitis deep X-ray**



To establish a complete and comprehensive diagnostic the measures of hygiene we applied through an ultrasonic detartrate both anesthesia and manually lower the front group. Intraoral clinical examination gives the following data after analysing images shown below:

- In the maxillary arch (Figure 2):
  - presence of composite fillings crown and amalgam with secondary caries process
  - a large presence of caries in the premolars area
  - one remaining root of the left upper premolars two
  - a right upper molar rotation 90 degrees and close the corresponding space is absent premolars two higher
  - one two three molars absence of confirmed and radiographic examination
  - the integral dental units are only canines
  - a fixed gingival mucosa and bleeding on probing are erythematous and inflamed interdental papillae

**Figure no. 2. Maxillary arch**



The mandibular arch (Figure 3 and 4):

The presence of an amalgam filling and root that have been shown at the panoramic X-ray examination a second-degree,

- Mobility II degree of the incisive group
- Mandibular ridge resorption in the edentulous areas.

Fixed lining retraction of the group unveiling her front teeth and half of the root of these hardened root exposure - therefore - thermal pain stimuli a fixed gingival mucosa bleeds to touch deeply detached from the teeth and interdental papillae are erythematous and swollen

Due to lack of dental units, namely the lack of distal occlusal stops, there is an imbalance of occlusion, bruxism might accused by the patient and muscle pain in the TMJ (Figure 5)

**Figure no. 3. Arcade jaw after extraction of the second molar root debris as**



**Figure no. 4. Highlighting the marginal periodontium retraction hardened with exposure to mid-root root**



**Figure no. 5. Interarcadic relations at the maximum intercuspidar**



Historical data correlated with those obtained by clinical examination and radiological diagnosis leading to chronic marginal periodontitis clinical deep emissions generated by exposure to professional.

Quality of life is affected by the abolition of masticatory function in conjunction with occupational hazards adverse events occurred in the digestive and respiratory, oral cavity is the gateway to these textile dusts.

### CONCLUSIONS

- Exposure to occupational hazards induced periodontal tissue damage while the major repercussions on the functionality of the patient's maxillary dental appliance
- Occupational hazards impact on the marginal periodontium is shaped by the evolving nature of the disease given exposure to paint vapors, various solvents galvanic, vibration and dust.
- poor oral hygiene training enhances the action of pollutants on the oral mucosa, aggravating the clinical picture of periodontal disease
- oral health and general health is implicitly influenced by the work environment can cause irreversible changes at the cellular level and therefore lower quality of life.

### BIBLIOGRAPHY

1. Bardac D., Elemente de medicina muncii și boli profesionale, Ed. Mira Design Sibiu 2004
2. Niculescu T., Adriana Todea, Toma I – Medicina muncii, Ed. Medmun București 2003
3. LaDou J., Occupational & Environmental Medicine, Appleton & Lange Stanford, Connecticut, Second Edition. 1997
4. Olteanu, Ileana, Mihai, A., Etiologia și patogeneza bolii parodontale, Ed. Stomatologia, Bucuresti 1996
5. Dumitriu, H. T., Parodontologie, Editura Viata Medicala Romaneasca, Bucuresti 1997
6. Darabont, Al, "Valori limita de expunere la agentii fizici la locul de munca - Risc și securitate în munca", I.C.S.P.M., Bucuresti, nr. 1-2/1994
7. Vulcu, Liviu - "Componentele clinice ale sănătății publice - Promovarea sănătății" - Ed. U.L.B.S., Sibiu, 2005.