

# CLINICAL MANIFESTATIONS OF THE PERIODONTIUM IN CHRONIC LEUKAEMIA

ANDREEA ȘTEȚIU<sup>1</sup>, LAURA ȘTEF<sup>2</sup>, GABRIELA BOȚA<sup>3</sup>, CRISTINA VULCU<sup>4</sup>, M. ȘTEȚIU<sup>5</sup>

<sup>1,2,3,5</sup>“Lucian Blaga” University of Sibiu, <sup>4</sup>Individual Medical Practice, Sibiu

**Keywords:** side periodontium, chronic lymphocyte leukaemia, buccal – dental hygiene

**Abstract:** I appealed to this study in order to underline the importance of health in side periodontium and the seriousness of the gingival – periodontal manifestations on patients with haematological affections, trying to raise their attention on the role of the periodontal treatment: elimination of inflammation at the level of the periodontium, reduction of periodontal pockets, maintenance of a severe buccal - dental hygiene and periodical control to the dentist. The clinical and radiological evidence is very important in recognizing and diagnosing the gingival – periodontal manifestations in haematological affections, because untreated in due time, they may turn into a centre of infection for the buccal cavity and for the whole body.

**Cuvinte cheie:** parodonțiul marginal, leucemie limfocitară cronică, igienă buco-dentară

**Rezumat:** Am recurs la acest studiu pentru a sublinia importanța stării de sănătate a parodonțiului marginal și gravitatea manifestărilor gingivo-parodontale la pacienții cu boli hematologice, încercând a le atrage atenția asupra rolului tratamentului parodontal: eliminarea inflamației de la nivelul parodonțiului, reducerea pungilor parodontale, menținerea unei igiene buco-dentare riguroase și controlul periodic la medicul dentist. Este foarte importantă evidențierea clinică și radiologică în recunoașterea și diagnosticarea manifestărilor gingivo-parodontale în bolile hematologice, deoarece netratate la timp, constituie un adevărat focar de infecție al cavității bucale și al întregului organism.

## INTRODUCTION

Leukaemia is a complex disease, the result of a neoplastic, generalized and continuous proliferation of a leucocytic tissue, associated, or not, with the spreading in blood of the proliferating cells that, finally, lead to death. (1)

Chronic lymphocytic leukaemia (CLL) is the most frequent form of leukaemia with a maximum frequency between 50-70, exceptional under 40 years, generalized disease but with mild symptomatology that can progress. The discovery of the disease is accidental in over 13 % of the cases, evolving many years before it causes pain. (2)

Leukaemias represent one of the general factors of risk involved in the start and aggravation of the periodontal disease. This is a clinical schedule represented by gingival hyperplasia as exaggerated reaction to local irritations that can be so obvious that the teeth are totally covered. Inside the gingival tissues a thick leukaemic infiltrate of immature leucocytes appears. The red-violet cyanotic gum, has, at first, a firm consistency, turning into a friable one, bleeding spontaneously or just at minimum injuries. Discrete gingival bleedings may appear due to the leucopenic thrombocytopenia. They are accompanied by ulcerations at the level of the gingival margin, usually overinfected and painful at touch or mastication, ecchymosis. A teeth mobility appeared due to the affection of the periodontal ligament and, in some situations, even bone resorptions appear.(3)

## MATERIAL AND METHOD

In order to draw this study 60 patients have been examined, between 20 and 75 years old, hospitalized in the Section of Haemathology of the Clinical Hospital Sibiu by Dr.A.C., in the period 2008 and 2009, who came with indem

periodontium or with different forms of periodontal disease.

The 60 patients registered for our study have been submitted to a primary, complete and complex clinical examination. We noticed, on these cases, besides the subjective signs related by the patient and the objective ones discovered after the clinical examination, the presence of periodontal affections associated to chronic leukaemia: precocious gingival bleeding, ulcerations at the level of the free gingival margin, usually overinfected.

The observations and data picked up after the examination have been registered in a study file comprising: the general data of the patient (if alcohol, coffee or tobacco consumer); dental status; oral hygiene index; bleeding index; subjective and objective symptoms; periodontal diagnosis; diagnosis of the general affection; radiologic exam and values of the different biological constants; photos of the examined patients. (4)

In order to examine the health of the covering periodontium as well as of the supporting one, the following parameters have been used: oral hygiene index, plaque revealators, the depth of the periodontal pocket, dental mobility, gingival retraction. (5)

## EXAMPLE FROM THE STUDIED CASES

J.V., 22 years old, male, Rupia, student, non-smoker – chronic granulocitary leukaemia since 2007.

Oral hygiene index (O.H.I.) = 2,5

Bleeding index: 75%

Symptoms

- subjectives: the patient comes for a physiognomic disfunction due to multiple decays processes in the frontal mandibulae area, to non-physiognomic bridges with

<sup>1</sup> Corresponding Author: Andreea Ștețiu, 13, Alexandru Xenopol street, Sibiu, Romania; e-mail: stetiuclicknet.ro; tel +40-0744869075  
Article received on 23.02.2010 and accepted for publication on 02.03.2010  
ACTA MEDICA TRANSILVANICA June 2010; 2(2)260-262

## CLINICAL ASPECTS

inadequate axial and transversal side adaptors, fetid breath (halitosis), mastication troubles, gingival pain.

- objectives: generalized gingival bleeding when sounding the gingival sulcus (picture 1), the interdental gingiva and the marginal gingiva of the frontal group are red-violet, swollen, glossy; gum of modified colour and texture and disappearance of the stippled aspect; gingival retraction of 1-2 mm on vestibular at 3.3 and 4.3; non-physiognomic fix bridges with side adaptor and inadequate aesthetic aspect; defficitary oral hygiene.

**Figure no. 1. Patient J.V. – clinic aspect**



Periodontal diagnosis: generalized maxillary hyperplastic chronic gingivitis, due to a bacterian plaque, to an incorrectly executed bridge, to the acrylic material irritant for the periodontium and to the unrestored edentations and the mandibullary simple chronic gingivitis by microbial cause.

### RESULTS

**Table no 1. The incidence of the periodontal affection for a lot of 60 studied case**

Cases with periodontal affection	Cases with gingivitis		Cases with superficial chronic marginal periodontitis		Cases with severe chronic marginal periodontitis	
52	23		12		17	
52	15 ♀	8 ♂	3 ♀	9 ♂	7 ♀	10 ♂

The clinical – statistic study for the 60 patients revealed the presence of periodontal affection for 52 cases, among which: gingivitis 23 (44,23%), superficial chronic periodontitis 12 (23,08%), severe chronic periodontitis 17 (32,69%). We noticed a greater incidence of the periodontal affection on men than in women, mostly explained by men's indifference concerning personal hygiene, buccal-dental, associated with the fear for the dental act, refusing in most of the cases some treatments while women cooperate having a better prognosis in the evaluation of the periodontal disease.

**Table no 2. Incidence of the bacterian plaque and of the dental ophus**

Nr. of examined patients	Nr. of patients with bacterian plaque	Nr. of patients with dental calculus
60	60 (100 %)	37(61.66%)

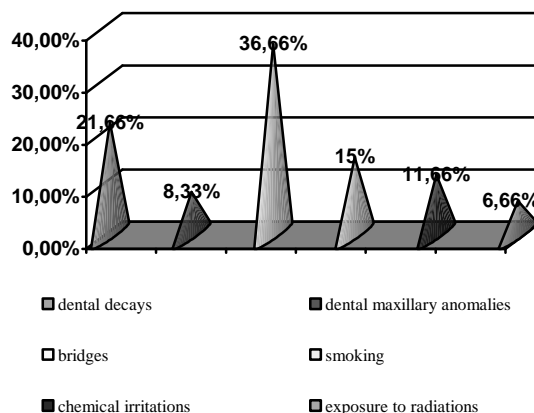
The presence of the bacterial plaque was revealed to all the examined patients, associated with the dental calculus in 37 cases (61,66%) that determines a mixed irritation of the periodontium, bacterian as well as mechanic.

#### *Incidence of the favoring factors*

In order to stop the action of the factors (picture 2) favoring the periodontium affection, it is important to treat the decay processes, to follow a corresponding hygiene, to choose a biocompatible material for the prosthetic works, to solve precociously the dental – maxillary anomalies, to reduce the

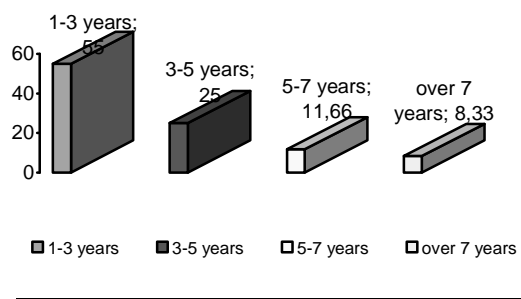
number of cigarettes, because smoking, through its combustion products, favors the deposits of bacterian plaque and the exposure to radiations that increases the risk of leukaemia

**Figure no. 2. Favoring factors**



#### *The oldness of the general affection*

**Figure no. 3. General affection stage**

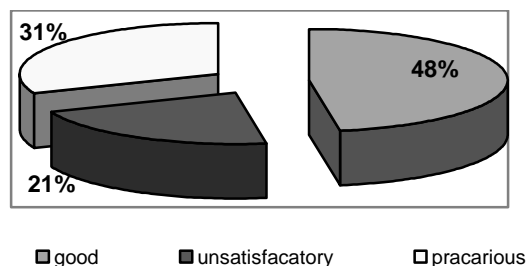


The periodontal disease is aggravated by the superposition of a general pathology, our case dealing with patients with leukaemia in different stages (picture 3), who frequently present an association with endocrine, renal or nervous troubles.

#### *Hygiene level of the examined patients*

After establishing the index of dental hygiene OHI we noticed the following (picture 4): a good hygiene at 29 patients (48,33 %), the others having, generally, an unsatisfactory hygiene, even precarious at 19 patients (31,66 %)

**Figure no. 4. Patients' hygiene**



### CONCLUSIONS

1. The clinical-statistic study done on 60 patients

## CLINICAL ASPECTS

---

revealed the presence of periodontal lesions in different stages: gingivitis (44,23%), superficial chronic periodontitis (23,08%) and severe chronic periodontitis (32,69)

2. The bleeding in sounding is present at all the cases of periodontal affection correlated with the presence of other ethyopatogenic factors favoring the periodontal sufferings (incorrect prosthetic works, odontal lesions) and the risk factors of chronic leukaemia (smoking, exposure to radiations, chemical irritations).

3. The presence of the bacterial plaque as causal ethyopatogenic factor and of the dental calculus as favoring ethyopatogenic factor have been emphasized with the disclosing agents on almost all the examined patients.

4. In the situation of the periodontal affections as well as in that of the general ones (chronic leukaemia), it is important to establish some prophylactic measures of hygiene and therapy associated with those for the general affection in the incipient stages of the affection, the maximum rate of survivals being of 9 years.

5. The periodontal disease is aggravated by the superposition of a general pathology, in our situation, the chronic leukaemia, that determines the modifications of the biological constants, increasing or lowering them in front of the normal values (number of pathologic leucocytes 15000 – 150000, Quik time under 60 sec.)

6. The evolution of the general affection can be correlated with the degree of dental hygiene. In the clinical – statistic study this is unsatisfactory, reason for which it is important to remove all the predisposing and favoring factors, the CLL patients being very susceptible to infections.

### BIBLIOGRAPHY

1. Breuss R., Cancer-Leucemie. Modalități de tratare a cancerului, a leucemiei și a altor boli aparent incurabile, Editura ANANDA KALI, 2006.
2. Stana P .Manifestări gingivo-parodontale în leucemii. Editura Didactică și Pedagogică, Ediția 1, 2008.
3. Ștețiu AA., Boala parodontală – De la etiologie la programe de dispensarizare clinică . Editura Universității „ Lucian Blaga ” Sibiu, 2008.
4. Ștețiu AA . Indrumător de lucrări practice. Abordarea cazurilor clinice cu afectare parodontală. Editura Universității „ Lucian Blaga”, Sibiu, 2007.
5. Vulcu C. Lucrare de diplomă – Manifestări gingivo-parodontale în bolile hematologice maligne-leucemia cronică. Universitatea „Lucian Blaga”, Facultatea de Medicină „Victor Papilian”, Specializarea Stomatologie generală, 2009.