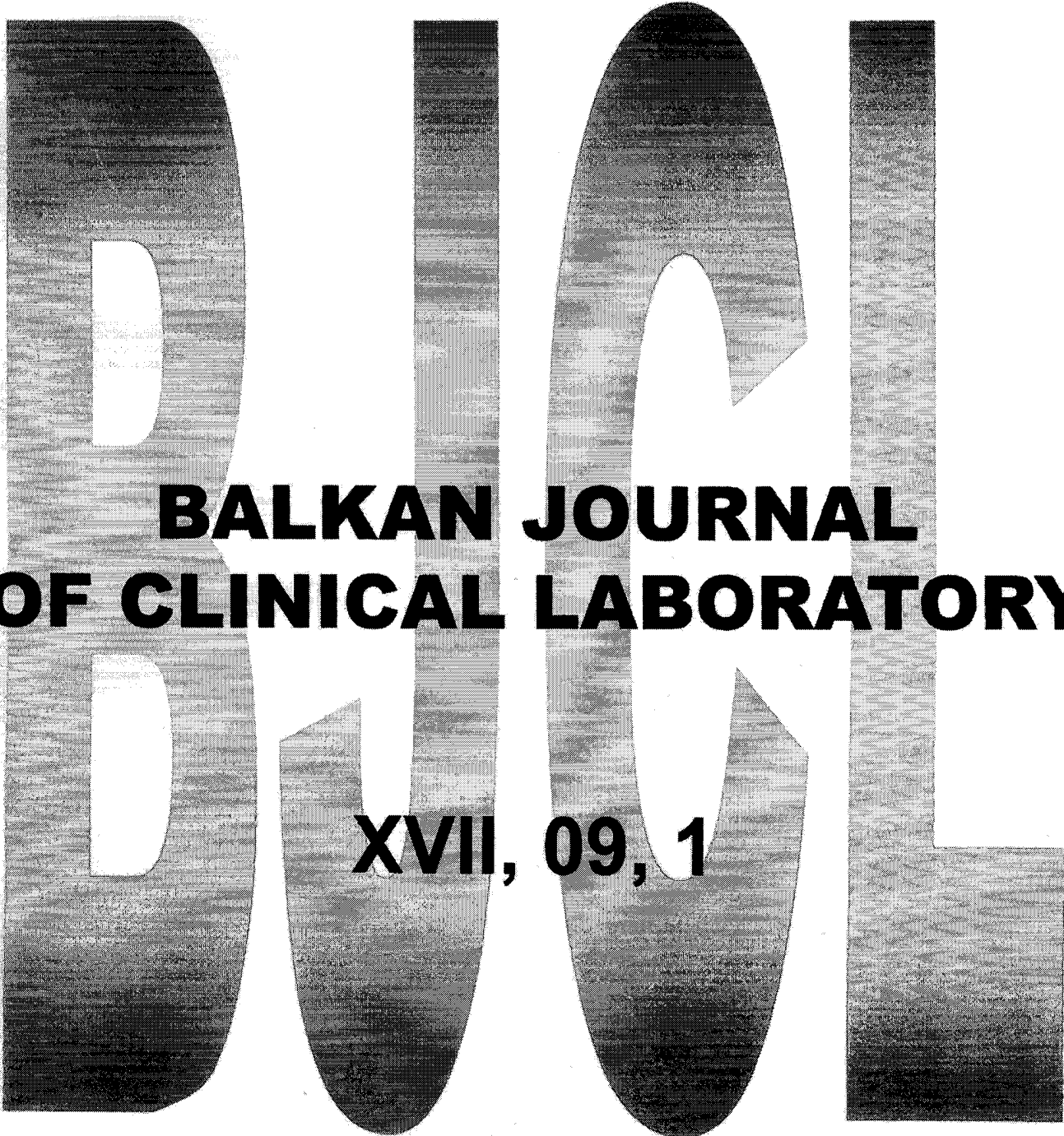


BJCL ISSN 1310-4543
Supplement 2009



**BALKAN JOURNAL
OF CLINICAL LABORATORY**

XVII, 09, 1

17th Meeting of Balkan Clinical Laboratory Federation
&
5th Macedonian National Congress of Medical Biochemists
Ohrid, Republic of Macedonia, September 16-19, 2009
Abstracts volume

**BJCL ISSN 1310-4543
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Proceedings
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Laboratory Federation
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Organizers:

Macedonian Society of Medical Biochemists
University Clinic of Clinical Biochemistry, Skopje
Department of Medical and
Experimental Biochemistry,
Medical Faculty, “Ss Cyril and Methodius” University,
Skopje, Republic of Macedonia

Material and methods: The study included 80 children of average of 13.4 ± 0.3 years. The children were divided into two groups according to caries risk (low and high caries risk groups). Two samples of saliva-unstimulated and stimulated one were taken from each child. Ph value and bicarbonate buffer levels were estimated in both groups of saliva samples.

Results: We found that the mean bicarbonate concentration in unstimulated saliva at a pH of 6.7 was 4.2 mmol/l, and in stimulated saliva at a pH of 7.2 it was 9.6 mmol/l. In children with low caries risk, both unstimulated and stimulated saliva show significantly higher bicarbonate buffer concentrations ($p < 0.001$) as well as pH values.

We have shown that a high salivation rate for unstimulated and stimulated whole saliva implies the presence of high bicarbonate concentration, a more alkaline pH and a high buffer capacity. In contrast low rate of secretion imply a lower bicarbonate concentration, a more acidic pH and a lesser buffer capacity.

Conclusions: The results of this examination with children, i.e. the values of the bicarbonates in saliva, may serve as parameters for determining the caries risk patients, and according to that, we can plan and carry appropriate caries-preventive measures.

PP-106

LEVELS OF CALCITONIN GENE - RELATED PEPTIDE IN SALIVA OF PATIENTS WITH BURNING MOUTH SYNDROME

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Background: Burning mouth syndrome (BMS) is an intraoral burning sensation for which no medical or dental cause can be found. Recent studies suggest that primary neuropathic dysfunction might be involved in the pathogenesis of BMS. Calcitonin gene-related peptide (CGRP) plays an important role in the development of pain and serves as a biological marker of trigeminovascular activation. The aim of this study was to determine the levels of CGRP

in the saliva of BMS patients. All patients underwent a general medical examination, a detailed blood test examination. Oral infections were ruled out by microbiological culture.

Methods: The saliva was collected for 15 min as unstimulated salivary flow, stored in ice bath and centrifuged at 1600 g on -4°C for 10 min. The supernatants were frozen at -80°C . Measurements of CGRP levels were performed at the University of Szeged, Hungary by RIA method in 78 BMS patients and 16 healthy subjects. CGRP antiserum was provided by T. Gorcs, Semmelweis Medical University, Budapest.

Results: Comparison of CGRP values between the examined group of patients and the control group showed lower values in patients (2.93 ± 1.43 nmol/l) than in controls (3.45 ± 0.81 nmol/l) without significant difference. CGRP levels were significantly higher in BMS patients with longer disease duration. No significant difference was found in CGRP levels of BMS patients according to gender and age.

Conclusions: The levels of CGRP were non-significantly decreased in BMS patients in comparison to healthy subjects. These results suggest that trigeminal nerve degeneration may be the underlying cause of BMS.

PP-107

PGE₂ CONCENTRATION IN TEETH PULP TISSUE AS A MARKER FOR THE EFFECTIVENES OF DIFFERENT TYPES OF TREATMENT FOR PERIODONTOPATHY

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Introduction: Activation of the immune system, followed by an increase in the concentration of different immune mediators (among which is found PGE₂) is observed during different types of infections and diseases. In our experiment, we monitored the concentration of PGE₂ in patients with generalized periodontopathy. The disease is characterized by severe inflammation of the gingival tissue.

The aim of our work: was to determine the effectiveness of different types of therapy for periodontopathy.

Material and methods: We obtained tissue samples from the following groups of patients: control (healthy), untreated periodontopathic, periodonto-

pathic treated with conservative therapy, and periodontopathic treated with laser therapy represented by 5 laser treatments or 10 laser treatments.

PGE₂ levels were determined using a non-radioactive enzyme-based immunoassay (PGE₂ EIA, Sigma-Aldrich, Inc.).

Results: Our results have shown that compared to healthy tissue, untreated periodontopathic samples contain significantly higher concentration of PGE₂ ($p < 0.05$). The conservative therapy significantly decreases the level of PGE₂ (compared to the untreated periodontopathic samples) ($p < 0.05$). The 5 and 10 laser treatments are even more effective in reducing the inflammation and lowering the concentration of PGE₂. The greatest reduction of PGE₂ concentration is observed in the samples treated with 10 laser treatments, but the mean concentration of PGE₂ in these tissues is still significantly higher ($p < 0.05$) than the concentration of PGE₂ in healthy tissue.

We conclude that: PGE₂ is a relevant indicator for the disease and treatment progress. Concerning the examined therapies, we would recommend further increase in the number of laser treatments.

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