

The aim is to study the dental status in different trimesters of pregnancy.

The investigation involved 75 pregnant women living in Bukovina. They had a triple examination: 1st trimester (5-13 weeks), 2nd trimester (17-26 weeks), 3rd trimester (30-36 weeks). The examination was performed according to the conventional method. The hygiene index, the intensity of caries and the condition of periodontal tissues were determined.

Local demineralization of enamel (caries in the spot stage) at the initial examination was found in 52.0 % of the examined. During the observation period, indicators increased to 53.3 % in the second trimester and 56.0 % in the third trimester. Caries intensity according to DMF index: 1st trimester - (11,34 ± 0,11), in 2nd trimester - (11,55 ± 0,12), and in 3rd trimester - (11,98 ± 0,83). Based on the study of caries increasing, we also observed the highest caries activity in the third trimester in women with the second pregnancy, and in the second trimester in women with the first pregnancy.

By the way the acute carious process of intact teeth is observed in 38,0 % of cases. Secondary caries occurs in 79.0 % of women, with an intensity of growth of 0.83 of a tooth. The carious lesions that were present before the pregnancy have a chronic course. The intensity of caries increases at the beginning of the second trimester.

During pregnancy, the prevalence of periodontal tissue inflammation ranges from 36 to 100 %, chronic catarrhal gingivitis is observed in 90.0 % of cases. Pregnancy gingivitis is observed in 50.0 % of women with physiological pregnancy. Condition of periodontal tissues: in the first trimester, 60.0 % of pregnant women have chronic localized mild catarrhal gingivitis, starting with the second half of pregnancy in 43.0 % of women gingivitis occurs as a generalized, diffuse process with a predominance of hypertrophic process in 26.0 % of cases, in the 3rd trimester - 21.3 % have an exacerbation of chronic generalized catarrhal gingivitis of mild severity.

Thus, during pregnancy, there is a significant increase in all indicators, especially in the third trimester of pregnancy. It proves the dependence of the dental status of pregnant women on the duration and nature of pregnancy, the number of previous pregnancies, and the presence of chronic diseases. The high prevalence of caries and its complications, and also inflammatory diseases of periodontal tissues, once again demonstrates the need for the introduction of mandatory preventive medical examination of pregnant women by the dentist. The main direction of the work of the doctor at this stage should be preventive measures and, if necessary, early treatment of pathological conditions. It will allow preserving not only the dental health of the woman but also to carry out antenatal prevention of the caries of temporary teeth in the future child.

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## **METABOLIC STIMULATION BY L-ORNITHINE, BUT NOT L-ARGININE, INCREASES THE DENSITY OF CD68+ AND CD163+ MACROPHAGES IN THE GINGIVAL TISSUES OF PERIODONTITIS PATIENTS**

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Despite confirmed disturbance, M1/M2 ratio in periodontitis attempts to modify macrophages (Mφs) polarization for treatment purposes have not been made. But understanding the Mφs' answer in periodontitis-affected gingiva to metabolic loading/stimulation by L-arginine and L-ornithine is impotent as potential targeted therapy. We suggested that inflammatory M1 Mφs might be identified among CD68+ cells, and alternatively activated M2 – as CD163+ cells. The study aimed to investigate whether oral administration of L-arginine or L-ornithine could modulate Mφs densities and M1/M2 ratio in periodontitis by using immunohistochemical detection of CD68+ and CD163+ Mφs in gingiva biopsies.

**Materials and methods.** The diagnosis of periodontitis was based on the Classification of Periodontal and Peri - implant Diseases and Conditions 2017. The study was approved by the human subjects ethics board of Ethics Commission of Ukrainian Medical Stomatological Academy (No. 177b, from 27.11.2019) and was conducted by the Helsinki Declaration of 1975, as revised in 2013. All individuals were provided with written informed consents when enrolling in the study.

Periodontal examination embraced 75 periodontitis patients receiving conventional therapy. 25 out of them received conventional treatment only (Conv group); 25 – L-arginine (Arg), and 25 – L-ornithine supplementation (Orn) accordant to available instructions. For the precise immunohistochemical study of macrophages, a gingival biopsy was conducted before treatment and after 1 month. M1 macrophages were identified among CD68+ cells and M2 – as CD163+, and their densities were calculated as numbers at 10 000 μm<sup>2</sup>. Besides appropriate statistics, the CD68+/CD163+ ratio was assessed by t-tests also.

**Results.** The research has a reconnaissance nature to a large extent. A global goal is to find out whether the metabolic modulation of local macrophages can change periodontal inflammation to less active and the response to treatment of the periodontitis to more predictable. The main result was pronounced effect of the L-ornithine which significantly increased CD68+ and CD163+ Mφs densities with predominance of CD163+ Mφs, and thus demonstrated M2 promotion. L-arginin and L-ornithine were well tolerated by all participants without any adverse effects. After L-ornithine administration CD68+ and CD163+ Mφs density increased significantly at intragroup

(Friedman test,  $p < 0.0066$ ;  $0 < 1$  month, and  $p < 0.0001$ ;  $0 < 1$  months, correspondingly) and between-group levels (Kruskal-Wallis test,  $p = 0.001$ ; Arg<Orn, and  $p < 0.0001$ ; Conv<Orn, correspondingly), and CD163+ M $\phi$ s density predominated over CD68+ (Wilcoxon matched-pairs signed rank test,  $p = 0.013$ ). After L-arginine administration CD163+ M $\phi$ s predominate over CD68+ (Wilcoxon matched-pairs signed rank test,  $p < 0.0001$ ) also. CD68+ and CD163+ M $\phi$ s density changes corresponded to clinical PPD and BoP reduction, although we did not confirm statistical correlation between the cells density and aforementioned clinical indices.

**Conclusion.** We report that the first successful attempt to modify CD68+ and CD163+ M $\phi$ s density and their ratio by metabolic stimulation with L-arginine and L-ornithine, both of them seemed to promote M2 polarization in periodontitis-affected gingiva, but with a statistically significant effect of L-ornithine.

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## VIDEOKINESIOGRAPHY RESULTS IN PATIENTS WITH NEUROLOGICAL MOTOR DEFICIT BY HEMITYPE DURING THE RECOVERY PERIOD

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Restoration of the masticatory function is one of the key elements in the comprehensive rehabilitation for patients with acute cerebrovascular disorders (ACVD) of various degrees, as their consequences may include an impaired coordinated action of the neuromuscular system, and the dentoalveolar system in particular.

In this context, the clinical presentation of stroke is characterized by motor and sensory deficiencies, which can eventually lead to dysfunction of the masticatory muscles, tongue, lips, soft palate and pharynx. The bilateral difference between such disorders, manifested by the discrepancy in the muscle mass and kinematic characteristics, is the peculiarity of this phenomenon. This is due to the direct central action on afferent sensors, which leads to an impaired motor function and changes in the typical activity.

Given the above, prosthetics of patients with a complicated course of ACVD by hemitype in the recovery period has its own characteristics. Since the general somatic diagnosis is dominant for patients, the main direction of orthopedic rehabilitation will be not only the restoration of the masticatory function, but also the formation of a normal stereotype of articulation. The rate and completeness of such recovery will depend on the quality of the manufactured prosthetic appliances, as well as on a set of physiotherapeutic methods of exposure.

**The aim of the research was** to examine the features of articulatory activity in the mandible during chewing at the stages of orthopedic rehabilitation in patients with complicated acute cerebrovascular disorder with the neurological deficit by hemitype during the prosthetics with removable orthopedic appliances.

**Materials and methods.** The study sample consisted of 45 subjects aged from 40 to 65 years, including 24 women (53%) and 21 men (47%). The study group included 25 patients with complicated ACVD with the neurological deficit by hemitype and 20 subjects for control who did not have general somatic disorders. All patients underwent prosthetics with partial removable laminar dentures with acrylic base and clasp fixation system.

**Conclusions.** Further non-parametric comparison in the groups showed that the most significant differences in videokinesioigraphy between the representatives of the second group (ACVD) and the control group on the 30th day of observation were: a relatively smaller amplitude of vertical movements ( $p = .0001$ ) and smaller amplitude of horizontal movements ( $p = .0000$ ). The absence of a statistically significant difference between the average values of vertical and horizontal rates within the groups ( $p = .5601$  and  $p = 1.000$ ) is noteworthy.

Thus, the amplitude of vertical and horizontal movements of the mandible, in our opinion, can be considered as a reliable marker of the functional activity of the dentoalveolar system in patients with a complicated course of acute cerebrovascular disorders by hemitype, which should be taken into account in further studies.

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## ECC PREVENTION PROGRAM IN VOJVODINA

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**Abstract.** Special programs in the field of public health for the territory of A.P. Vojvodina were started, because there are no appropriate programs at the National level of the Republic of Serbia. These programs include oral health behaviors that need to be corrected to increase population response to the systematic preventive check-ups, as significant measures to detect the risk factors for oral diseases of the all population categories (children, women, working population, elder).