

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**



МАТЕРІАЛИ

**106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
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Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

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Material and methods. We examined 24 patients with chronic generalized periodontitis (CGP) in the exacerbation phase and concomitant chronic pancreatitis aged 32 to 65 years, who were included in the 1st group of the study. The 2nd group consisted of 12 patients with CGP in the exacerbation phase of the corresponding age without concomitant pancreatic pathology. 5 practically healthy individuals were included in the control group. In all patients, the concentration of endothelin-1 in the oral fluid was determined using. Statistical processing of the material was performed using Microsoft Excel (USA).

Results. According to the classification of periodontal tissue diseases by M.F. Danylevskyj, 19 patients in the 1st group were diagnosed with initial and the 1st grade of CGP, 5 patients – with the 2nd grade, in the 2nd group there were 8 patients with the 1st grade and 4 patients with the 2nd grade of CGP.

The maximum concentration of endothelin-1 was detected in the oral fluid of patients in the 1st group with the 2nd grade of CGP. The average value of endothelin-1 concentration in the main group was 1.2 ± 0.004 fmol/ml, which exceeded the value in the 2nd group by 1.4 times ($p < 0.001$), and in the control group – by 1.9 times ($p < 0.001$). This probably indicates an additional destabilizing effect of chronic pancreatitis on the state of endothelial dysfunction, in particular the periodontal microcirculation in this category of patients.

Conclusions. The development of the inflammatory-dystrophic process in patients with chronic generalized periodontitis is aggravated by an increase in the concentration of the endothelial dysfunction marker endothelin-1 in 100% of patients. However, the highest values of this indicator were found in patients with concomitant chronic pancreatitis, which requires further investigation for effective treatment.

Rozhko V.I.

UNSTATIONARY IRRIGANT FLOW MODEL IN THE ROOT CANAL

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Introduction. Irrigation is the only way to affect those areas of the root canal wall that are not touched by mechanical instruments, and according to literature sources, this is from 20 to 80%. The importance of the problem motivates the constant interest of researchers. Over the past 15 years, many works have been published and new studies are constantly being conducted.

The aim of the study. To carry out a numerical simulation of the irrigant flow in the tooth root canal using the Navier-Stokes equation.

Material and methods. The simulation of the unsteady irrigant flow, namely 6% sodium hypochlorite solution, was carried out with a closed-type endodontic needle with a side hole of size 30G. The tooth canal was previously widened with a RaCe 4%-30 tool from FKG Dentaire (Switzerland) to an oval shape and initially filled with water.

Results. Numerical modeling of the irrigant flow was performed in an unsteady setting using the continuity equation and three-dimensional Reynolds-averaged Navier-Stokes equations of an incompressible viscous fluid with defined parameters.

Conclusions. Therefore, we performed a mathematical calculation of the irrigant flow in the tooth root canal, which subsequently makes it possible to create a computer model of the flow from the endodontic needle at different distances from the apical opening and to study the hydrodynamic parameters of the irrigation solution.

Soltys O.M.

PROPOLIS AND DECAMETHOXIN USE IN THE PERIODONTAL TISSUE DISEASES COMPREHENSIVE TREATMENT

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Introduction. Numerous epidemiological studies in recent years indicate a significant prevalence of periodontal tissue diseases among the population of the Earth. Comprehensive

treatment of patients with generalized periodontitis involves phased therapy, implementation of general therapy, and a series of local interventions. The selection of a medicament with simultaneous antiseptic and anti-inflammatory properties is extremely important. Decamethoxin, a bis-quaternary ammonium salt derivative of decamethylenediamine, has found wide application in the periodontal tissue diseases treatment. Propolis molecules, with high resistance to environmental physicochemical factors, are capable of sorbing and depositing cations of antimicrobially active compounds, including bis-quaternary ammonium derivatives such as decamethoxin and ethonium.

The aim of the study was enhancing the effectiveness of treatment and prevention of periodontal tissue diseases through the use of the proposed composition of medicinal products based on decamethoxin and propolis.

Material and methods. To study the therapeutic effect of the proposed composition, we selected 70 patients diagnosed with chronic generalized periodontitis of the first degree (35 individuals made up the main group (A); 35 individuals made up the comparison group (B)) aged 25 to 45 years. For the initial index assessment of the periodontal tissue condition, we used the Periodontal Screening and Recording (PSR) test developed by the American Academy of Periodontology. As supportive therapy, patients in the main group were prescribed the proposed DEPE composition in the form of mouth baths twice a day for 3 minutes each time for 2 weeks. Patients in the comparison group were prescribed rinsing with a 0.12% chlorhexidine bigluconate solution twice a day for 2 weeks.

Results. The PSR test scores in the examined subjects of the main group (A) were 2.04 ± 0.08 , while those in the comparison group (B) were 2.14 ± 0.07 . There was no statistically significant difference in the values of this indicator between the observation groups, with $p(A1-B1) > 0.05$. According to the Sulcus Bleeding Index (SBI) (Muhlemann, modified by Cowell I.), gingival bleeding in patients of the main (A) and comparison (B) groups indicates the presence of active inflammatory areas in the gingival tissues in cases of chronic periodontitis. Thus, the clinical characteristics of the periodontal tissue condition in the examined individuals of both the main and comparison groups correspond to the diagnosis of chronic generalized periodontitis stage I. No statistically significant difference was found between the results of the initial examination of periodontal tissues in the examined individuals of the main (A) and comparison (B) groups, indicating the objectivity of further research of the proposed treatment scheme effectiveness.

Conclusions. The proposed medication combination has proven its effectiveness in treating generalized periodontitis, as evidenced by improvements in clinical indicators, reduction in periodontal pocket depth, and normalization of the oral cavity microbiota in the subjects.

Sorokhan M.M.

METHOD OF MANUFACTURING OF BRIDGES WITH ADHESIVE FIXATION

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Introduction. Clinical durability of adhesive restorations is largely determined by the quality of marginal adaptation of orthopedic structures to hard tooth tissues. One of the factors that affect the marginal adaptation is the adhesive strength.

In order to improve the mechanical fixation of bridges to the hard tissues of abutment teeth, various irregularities and roughness's (microretention points) formed on the metal surface during its processing in a sandblasting machine are used.

However, all of the above methods require significant preparation of the vestibular part of the tooth, since the retention points have convex outlines outward, so the layer of the facing mass must be of sufficient thickness to prevent the retention points from being visible. In addition, electrochemical etching and coating with a layer of ellipsoidal particles of appropriate dimensions by electroplating does not ensure reliable development of the relief structure at the adhesive-structure interface and, as a result, reliable strength of the adhesive fixation of the orthopedic structure to the hard tissues of the abutment teeth.