

which is 2 times  $p1 < 0.05$  and 1.3 times  $p2 < 0.05$  higher than in patients of groups A and B. Collateral edema was absent in 98.47% of operated group B, which exceeded 1.2 times,  $p1 < 0.05$  number of such persons of group A, where the bone defect was augmented by the drug "Colapan-L" and 1.4 times higher,  $p1 < 0.01$ ,  $p1 > 0.05$  indicators of group B, where the healing of the bone defect occurred without the use of bone augmentation materials. The absence of hyperemia of the oral mucosa was determined in 92.37% of patients in groups B, which was 1.3 and 1.4 times higher than the values obtained in groups A and B,  $p1 < 0.05$ ,  $p2 < 0.01$ .

A comparative analysis of the clinical efficiency of bone augmentation materials in the operation of impacted third molars extraction convincingly proved the advantage of using bone augmentation material "Colapan-L" and its combination with multipotent mesenchymal stromal cells and platelet-rich plasma before spontaneous augmentation, as evidenced by subjective and objective symptoms in patients during the postoperative period.

**Batig V.M.**

## **THE DEVELOPMENT OF EXPERIMENTAL PERIODONTITIS MODEL UNDER ANTICHOLINERGIC DRUGS**

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The microbiome of the oral cavity plays an essential role in the development of periodontal disease. It also has a significant pathogenic effect on the innervation of the oral cavity organs. Pathogenic bacteria reach through toxins, and lipopolysaccharide is the most active among them. A number of enzymes are among toxic microbial factors, and according to their catalytic properties, they can lead to toxic effects, directing on the destruction of structural biopolymers of macroorganisms.

The aim of the paper was to develop an experimental periodontitis model under anticholinergic drugs. The development of the experimental model of periodontitis was carried out by injecting the pathogenic factors into the rats' gums: lipopolysaccharide, hyaluronidase and trypsin. The preparations were in the form of solutions of 0.9% lipopolysaccharide NaCl (1 mg / ml), hyaluronidase (2 mg / ml) and trypsin (5 mg / ml), which were injected into the gums in the molar area in an amount of 0.2 ml per rat. The study was performed on white Wistar rats (45 rats in total). The aim of the study was to investigate the effect of anticholinergic drugs (pilocarpine and atropine) on the development of an experimental model of periodontitis after administration of a solution of hyaluronidase (2 mg / ml) into the rats' gums.

The results were next: activity of the proteolytic enzyme elastase was chosen as an indicator of inflammation. The effect of three pathogenic factors (lipopolysaccharide, hyaluronidase and trypsin) on the activity of elastase in various tissues (gums, pulp, serum and gastric mucosa) was studied. According to the data obtained, hyaluronidase has the most significant pro-inflammatory effect. After recalculating the magnitude of the increase in elastase activity per 1 mg of the pathogen, it was found that hyaluronidase is more effective when acting on the gums, tooth pulp and serum.

The results of this series of experiments became the basis for the use of hyaluronidase for the experimental model of periodontitis. The effect of autonomic nervous system modulators (pilocarpine and atropine) on the development of acute experimental periodontitis after administration of hyaluronidase solution (2 mg / ml) in the gums of rats was studied in the following series of experiments (15 rats)). To do this, rats were pre-administered orally with gels with pilocarpine (2 mg / ml) or atropine (0.2 mg / ml) for two days. Rats were sacrificed 3 hours after hyaluronidase injection, gum and dental pulp were isolated, and serum was obtained.

The presence of an inflammatory process in the periodontium is evidenced by a significant increase in elastase activity (by 22.5%). The use of pilocarpine or atropine gels slightly reduces the activity of elastase, but it remains much higher compared to intact rats. Both anticholinergic drugs (pilocarpine and atropine) significantly increase the content of malonic dialdehyde compared to its level in rats with an experimental model of periodontitis.

The use of pilocarpine gel significantly reduced catalase activity and API index. Gel applications with the proposed drugs did not reduce catalase activity. However, they have lowered the API index to some extent. As a result of the first series of experimental studies, we can make a conclusion that an experimental model of periodontitis was developed using one of the pathogenic effectors of bacteria, namely hyaluronidase, which can significantly increase the permeability of bacteria and their toxins in periodontal tissues.

**Batih I.V.**

**DENTAL PROTECTOR AND HEPATOPROTECTOR ACTION OF PHYTOGEL  
"Dubovyi" ON RATS WITH HEPATO-ORAL SYNDROME**

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Hepato-oral syndrome is manifested by dental complications on the background of hepatobiliary pathology. First of all, pathogenesis of the hepato-oral syndrome is based on the violation of the antimicrobial function of the liver, which often occurs as a result of the activation of free radical processes under the action of hepatotoxicants. It is proposed to use antioxidant drugs to prevent the activation of free radical processes and violation of the antimicrobial function of the liver.

The purpose of the study is to determine the possibility of using oral applications of phytogel "Dubovyi" for the prevention and treatment of the hepato-oral syndrome.

Hepato-oral syndrome was reproduced in rats by intra-abdominal administration of the hepatotoxicant hydrazine sulfate. It was used phytogel "Dubovyi", which contains phenolic compounds extracted from oak wood. The condition of the liver was assessed by the level of elastase and malonic dialdehyde (MDA) in the liver and in the serum by the level of bilirubin, alanine aminotransferase, and alkaline phosphatase. The condition of the mucous membrane of the cheeks and gums was assessed by the level of elastase, MDA, urease, lysozyme. The degree of dysbiosis was calculated by the ratio of the relative activities of urease and lysozyme.

Administration of hydrazine sulfate to rats increases the level of inflammatory markers in the liver (elastase and MDA), and the level of liver markers (bilirubin, alanine aminotransferase and alkaline phosphatase) in the serum. In the mucous membrane of the cheek and gum, the activity of elastase, urease, and the degree of dysbiosis increases, but the activity of lysozyme decreases. Rats, which were treated with hydrazine sulfate, on the background of oral applications of phytogel "Dubovyi", in the liver normalizes the level of markers of inflammation in the serum, significantly reduces the activity of alanine aminotransferase and alkaline phosphatase, in the buccal mucosa and gums decreases the activity of elabiase, elastase increases lysozyme activity.

The introduction of hepatotoxicant hydrazine sulfate into the body of rats causes the development of hepatitis and the development of inflammatory-dystrophic processes in the tissues of the oral cavity (hepato-oral syndrome). Oral applications of the phytogel "Dubovyi", which contains phenolic compounds extracted from oak wood, have hepatoprotective, anti-inflammatory, and anti-dysbiotic effects on the tissues of the oral cavity.

**Bernik N.V.**

**COMPLICATIONS OF INFECTIOUS-INFLAMMATORY NATURE IN THE ORAL  
CAVITY IN THE PRACTICE OF A DENTIST**

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The disorders of quantitative and qualitative microscopic flora content, that is, microbe biotic community of the oral cavity and colonization with pathogenic microorganisms, cause inhibition of the body immune reactivity, promote the occurrence of infectious-inflammatory complications, and become one of the important reasons for their development.

The objective of the work is to study the mechanisms of development of infectious-inflammatory complications in the oral cavity after oral surgery in order to improve their treatment and prevention. 81 patients, aged from 20 to 65, were examined. They were prepared for out-patient