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SIMULATION OF EXPERIMENTAL PERIODONTITIS USING PATHOGEN SOLUTIONS

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According to the literature in the development of periodontal disease an important place is occupied by the endogenous microflora of the oral cavity. This microflora also has a significant pathogenic effect on the nervous system of the oral cavity. The pathogenic action of bacteria is realized due to toxins, among which the most active was lipopolysaccharide.

The aim of this series of studies was to determine the possibility of reproduction of experimental periodontitis by injection into the gums of solutions of the following pathogens: LPS, hyaluronidase and trypsin. The drugs were used in the form of solutions of 0.9% NaCl LPS (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.

A periodontal study of neuromodulators was performed on white Wistar rats (45 rats in total). After 30 days, rats were euthanized under thiopental anesthesia (20 mg / kg) by total cardiac bleeding. The mucous membrane was isolated, in the homogenate of which the level of biochemical markers of inflammation was determined: elastase activity and malonic dialdehyde content, urease activity (bacterial contamination index), lysozyme activity (indicator of nonspecific immunity), antioxidant enzyme activity.

Previous experiments have shown that significant pathological manifestations of pathogens are detected after 3 hours. The activity of the proteolytic enzyme elastase was chosen as an indicator of inflammation.

The results of a comparative study of the effect of three pathogens (LPS, hyaluronidase and trypsin) on the activity of elastase in different tissues (gums, tooth pulp, serum and gastric mucosa). From the obtained data it is seen that hyaluronidase has the greatest pro-inflammatory effect. After recalculating the magnitude of the increase in elastase activity per 1 mg of 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 the hyaluronidase model of experimental periodontitis. The proinflammatory activity of hyaluronidase exceeds the proteolytic enzyme trypsin and even intestinal endotoxin lipopolysaccharide.

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INFECTIOUS-INFLAMMATORY COMPLICATIONS IN THE ORAL CAVITY AFTER ORAL SURGERY

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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 occurrence of infectious-inflammatory complications, and become one of the important reasons of their development.

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 surgery in the oral cavity and distributed into three groups according to the types of surgery performed: the 1st group included 27 patients waiting for dental implants, the 2nd group - 28 patients with retention and dystopia of the third lower molar, the 3rd group - 26 patients with radicular cystogranuloma. Before surgery all the patients underwent examination of their immune status in the oral cavity by means of flow cytometry with monoclonal antibodies on the laser cytofluorometer Epics XL-MCL (Coulter, France), microscopic flora of the mucous membrane in the area to insert dental implant and other surgeries in the oral cavity. Isolated cultures of bacteria were identified in order to examine their quantitative and qualitative content.