

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



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**ОСНОВНІ НАПРЯМКИ РОЗВИТКУ СТОМАТОЛОГІЇ**

**Batig V.M.**

**THE INFLUENCE OF PATHOGENS ON THE DEVELOPMENT OF EXPERIMENTAL PERIODONTITIS IN EXPERIMENTAL ANIMALS**

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**Introduction.** There are a lot of data in the review of the literature that testify to the important role of endogenous microbiota in the development of neuropathies. The pathogenic effect of bacteria is conducted due to toxins, among which is lipopolysaccharide (LPS) which is the most active. Among the microbial toxic factors there are a number of enzymes that can cause a toxic effect due to their catalytic properties aimed at the destruction of structural biopolymers of the macroorganism.

**The aim of the study.** The purpose of this series of experiments was to determine the possibility of reproducing experimental periodontitis with the help of injections into the gums of solutions of the following pathogens: LPS, hyaluronidase, and trypsin. The drugs were used in the form of 0.9% NaCl solutions of LPS (1 mg/ml), hyaluronidase (2 mg/ml) and trypsin (5 mg/ml), which were injected into the gums of rats in the area of the molars in the amount of 0.2 ml per rat.

**Materials and methods.** Previous experiments have established that significant pathological manifestations of the action of pathogens are determined after 3 hours. The activity of the proteolytic enzyme elastase was chosen as an indicator of inflammation.

**Results.** The obtained data shows that hyaluronidase has the greatest pro-inflammatory effect. After calculating the increase in elastase activity per 1 mg of the pathogen, it was found that hyaluronidase is more effective when acting on gums, tooth pulp, and blood serum. The results of this series of experiments became the basis for the use of the hyaluronidase model of experimental periodontitis. Thus, as a result of conducting this series of experiments, an experimental model of periodontitis was developed by using one of the pathogenic effectors of bacteria, namely hyaluronidase, which is capable of significantly increasing the penetration of bacteria and their toxins into periodontal tissue. We found that hyaluronidase is more proinflammatory than the proteolytic enzyme trypsin and even the intestinal endotoxin lipopolysaccharide.

**Conclusion.** A comparative study of the effect of three pathogens (lipopolysaccharide (LPS), hyaluronidase, and trypsin) on elastase activity in various tissues of experimental animals (gingiva, tooth pulp, blood serum, and gastric mucosa) showed that hyaluronidase has the greatest proinflammatory effect.

**Belikov O.B.**

**FEATURES OF COMPREHENSIVE REHABILITATION FOR SECONDARY DENTAL DEFORMATIONS AS A RESULT OF THE CARIOUS PROCESS AND DENTAL ALVEOLAR LENGTHENING OF THE ANTAGONIST TOOTH**

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**Introduction.** Among the most common diseases of hard tissues of teeth, leading to the development of deformations of the dentition and occlusion, are caries and its complications (significant destruction of the crown part of the teeth, damage to groups of teeth with multiple caries, chipped walls, tooth extraction). With a carious lesion, the anatomical shape of the crowns of the teeth changes, and all surfaces of the tooth can be damaged, which leads to the development of pathological processes in the periodontium of the teeth and deformation of the dentition and occlusion. When restoring small defects in the occlusal surfaces of the posterior teeth in the cavities of the first class, the presence of cement fillings does not affect the geometry and area of the occlusal contacts. But with a significant loss of dental tissues, when IROPZ  $\geq 0.5$ , as well as in the cavities of the second class

according to Black, the presence of cement fillings significantly changes the localization and area of the contact points of the chewing teeth, in some cases completely excluding the tooth from occlusion.

**The aim of the study.** To analyze the changes that occur after the destruction of the tooth crown by caries, restoration with restorative materials and propose an algorithm for complex treatment in comorbidity.

**Materials and research methods.** An analysis was made of the contacts of the teeth of the masticatory group with restorations from cement and composite materials on the occlusal surface by means of the index of destruction of the occlusal surface according to Milicevic. In addition, the following were evaluated: marginal fit, surface structure of seals, localization and closure areas.

**Results.** When analyzing the contacts of the teeth of the chewing group with restorations on the occlusal surface, the following results were obtained. The total number of composite restorations on posterior teeth was more than the number of cement fillings by about 40%. Composite fillings replaced hard tissue defects of various sizes, from Black class I defects with IRR = 0.2 to significant class II restorations in MOD and IRR = 0.8–1.0 cavities. The marginal fit of composite fillings was an order of magnitude higher than the marginal fit of cement fillings. The surface structure of the fillings was much better with composites. In the presence of composite restorations placed on the teeth of the masticatory group in the cavities of the first class according to Black, the occlusal contacts did not differ significantly from the intact teeth because they were placed on the intact slopes of the cusps. In cases where composite restorations replaced tubercles on the occlusal surface of the posterior teeth, the contact points lost their characteristic area and localization. The localization of the occlusion sites also depended on the size and type of the cavity, the presence of preserved tooth cusps, the quality of the restoration, and the statute of limitations for its implementation. As a result of treatment with this method, we present a clinical case. Two microimplants were installed in the patient for orthodontic preparation - vestibular between the roots of the 25th and 26th teeth and on the palatal side between the 26th and 27th teeth, a spring rod was set up for the intrusion of the 26th tooth. As the maxillary molar moved and occlusal separation appeared, «Relyx ARC» photopolymer composite material was layered on tooth 36 to restore the height of the clinical crown. Within four months, a sufficient volume of intrusion of the 26 teeth was achieved. As the final stage of treatment after the removal of orthodontic attachments and the removal of microimplants, a metal-ceramic crown was made for the 36th tooth.

**Conclusions.** With significant destruction of the tooth crown as a result of a carious process and dentoalveolar elongation of the antagonist tooth, when the restoration is not possible at once, we offer a combined method of treatment. The effectiveness of the combined method of treatment has been proven in the long-term observation period by normalizing the interocclusal distance and restoring the odontoglyphics of the posterior group of teeth.

**Belikova N.I.**

## **LONG-TERM RESULTS OF ADHESIVE SPLINTING OF MOBILE TEETH IN THE LOWER HUMAN FRONTAL SECTION. ERRORS AND COMPLICATIONS**

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**Introduction.** At the initial stage of using splinting structures based on the reinforcing-adhesive technique, many researchers pay attention to the main fundamental errors: unreasonable extension of indications for splinting of teeth, when teeth with a third degree of mobility are included in the splint, non-compliance with the biomechanical laws of splinting, when the doctor relies only on the strength of the connection splint with teeth. Therefore, the well-known classical methods of splinting have significant drawbacks associated with the rigid fastening of the teeth, as a result, the possibility of minimal, but physiologically necessary tooth mobility is excluded.

**The aim of the study.** To assess the long-term results of splinting using non-invasive and invasive adhesive splints in patients with pathological mobility of the anterior teeth.

**Material and research methods.** 73 patients were examined with the presence in the oral cavity of 75 structures of adhesive splints of the frontal part of the dentition previously made using