МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

М А Т Е Р І А Л И

106-ї підсумкової науково-практичної конференції
з міжнародною участю
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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.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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was drawn that removal of third molars with underlying occlusive disturbances does not always lead to the results expected.

The aim of the study. To improve the efficiency of dental aid delivery to patients with occlusive disturbances occurring due to difficult eruption of third molars with the aim to prevent further development and complications of TMJ painful dysfunction.

Materials and methods. All the patients were examined according the following algorithm: complaints, previous history and life history, inspection, palpation of TMJ projection areas while performing statistical and dynamic tests, manual assessment of the muscle tone, and assessment of the lateral and mediotrusion movements of the mandible in the horizontal and vertical planes.

Paraclinical methods of examination included electromyographic examination of the masticatory muscles, orthopantomogram, teleradiography of the lateral projection, computed tomography of the TMJ, biometry of the diagnostic models of the jaws followed by their analysis in the articulator. Central correlation, lateral and frontal occlusion was evaluated by means of wax registers and MPI analysis.

Results. During 2021-2024 on the base of the Department of Maxillofacial Surgery at Chernivtsi Regional Clinical Hospital 79 patients 12-25 years old were examined. They had certain occlusive disturbances occurring due to eruption of third molars. Based on the results of examination, all the patients were distributed into two groups: 1) those who were treated without removal of third molars (44 individuals); 2) those who were treated with removal of third molars (35 individuals).

The treatment of patients from the first clinical group started using splint therapy. 6 months after the treatment, 41,7% of patients, in case of complete absence of complaints and after repeated analysis of diagnostic models and TMJ condition, underwent orthodontic treatment with application of fixed appliances with the aim to introduce third molars into the dental arch and create full-fledged contacts. A year afterwards, 64 % of patients admitted improvement of their condition.

The treatment of patients from the second clinical group started with removal of retained third molars. One week after removal of third molars, electromyogram detected overload of the circular oral muscle and 30-35% increase of bioelectric activity of the temporal muscles. Analysis of the occlusive correlations of the jaws 2 weeks after removal of third molars found distal dislocation of the lower jaw. 6 months after the start of treatment, 75,7% of patients admitted improvement of their general condition and lack of painful sensations.

Conclusions. Removal of retained third molars with the aim to eliminate further aggravation of occlusive pathology and prevention of painful dysfunction of the TMJ is effective in 64,9% cases only. 13,5 % of clinical cases admitted exacerbation of the syndrome due to distalization of the lower jaw and decrease of the volume of the space inside the joint.

Kuzyk I.M.

MODERN APPROACH TO DISTAL OCCLUSION DIAGNOSIS

Department of Pediatric Dentistry
Bukovinian State Medical University

Introduction. The use of artificial intelligence in orthodontics covers a wide range of tasks: from identifying anatomical and pathological structures of the dentition to supporting complex decision-making in the treatment process. Orthodontic planning is usually based on the doctors' clinical experience and professional skills. Today, artificial intelligence is actively used to analyze the structure of the facial skeleton, identify anatomical landmarks, analyze X-rays and 3D scans, determine bone age, and predict treatment outcomes. Cephalometric analysis, as one of the most complex traditional diagnostic methods, involves the identification of anatomical landmarks for geometric assessments in various planes. Although manual identification is still widely used, the application of artificial intelligence speeds up the processes, reducing the duration of the analysis and minimizing subjective errors.

The aim of the study was to use the artificial intelligence in the process of distal occlusion diagnosis.

Material and methods. Patient O., 14 years old, came for orthodontic treatment. A complete orthodontic diagnosis was carried out with a full photographic protocol, analysis of the orthopantomogram and the manufacture of control and diagnostic models. The patient's teleroentgenogram was evaluated and analyzed using an artificial intelligence algorithms program.

Cephalometric analysis was performed using the McNamara method. This method of automatic identification of markers on a teleradiograph was compared with the determining cephalometric data classical manual method. After the analysis, the patient was diagnosed with and a plan for further treatment was drawn up.

Results. We compared the classical method of analyzing teleradiograph data with a modern method using artificial intelligence algorithms, based on this clinical case. In contrast to the manual assessment method, which requires a lot of time to determine the position of each landmark, the automatic identification demonstrated high accuracy and performed a quick calculation of cephalometric data. At the same time, this method still requires the orthodontist to additionally check the position of each landmark after automatic identification; errors in landmark identification itself are still a significant source of inaccuracy in the analysis.

Conclusions. Therefore, this method is convenient, fast, high-quality, and time-efficient.

Lanowska A.E.

PREVALENCE AND INTENSITY OF ORAL MUCOSAL DISEASES IN ORTHODONTIC PATIENTS

Department of Prosthetic Dentistry
Bukovinian State Medical University

Introduction. The use of fixed orthodontic appliances for the treatment of dentoalveolar anomalies in young patients can lead to trauma of the mucous membrane of the cheeks and lips (Pasaoglu B.A., Buyukbasaran E., 2024; Abdollahzadeh B.T. et al., 2024). However, there are contradictory data on the effect of orthodontic treatment on the development of oral mucosal diseases (OMD) of non-traumatic origin. There are also few studies aimed at determining the risk factors for the development of oral mucosal diseases in these patients, as well as an effective algorithm for their prevention and treatment, which makes this problem relevant.

The aim of the study. To study the peculiarities of the distribution, diagnostic structure and clinical course of OMD in young patients undergoing orthodontic treatment.

Material and methods. We examined 26 young patients (18-35 years old) undergoing orthodontic treatment with fixed multibraces who were included in the study group. The control group consisted of 12 practically healthy individuals of the corresponding age. All patients were studied for the prevalence (in %) and intensity of OMD, and questionnaires were administered regarding risk factors for the development of these diseases. Statistical processing of the material was performed using Microsoft Excel (USA).

Results. In the examined patients, the diagnosis of traumatic stomatitis was most often made (in 73.1 % of the main group), especially in the first month of using multibraces, which was by 8.8 % higher than in the control group. The localization of traumatic erosions and ulcers was mostly on the cheeks, less often in the area of the lower and/or upper lip. The majority of patients in the survey associated the injury with the design features of orthodontic appliances. The literature also emphasizes the vulnerability of the above-mentioned areas of the oral mucosa when eating, talking, performing hygiene procedures, etc. (Chang J., Li X., 2024).

Herpetic stomatitis was the second most common condition (in 7.6 % of people). The least common were leukoplakia of the cheeks – in one patient of the main group (3.8 %) and recurrent aphthous stomatitis (in 3.8 %). The results of the questionnaire showed that the most significant risk factors for the development of non-traumatic OMD were tobacco smoking, use of a hard toothbrush, and consumption of hot food and drinks.

Patients in the main group were prescribed to rinse the mouth with a 0.1% solution of hexetidine, which has a complex antibacterial, antifungal and anti-inflammatory effect, twice a day for 30 seconds to treat OMD. To accelerate erosion healing and reduce pain, it was recommended to