

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



МАТЕРІАЛИ

**105-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
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Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

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У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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The improvement of the sensitivity of the method of polarization microscopic analysis of birefringence distributions is indicated by the increase in the angles of inclination of the linear dependences of postmortem changes of statistical moments of higher orders. This technique provides a fairly high level of accuracy in establishing the postmortem interval - 25-30 minutes within 24-36 hours.

Conclusions. The indicated effectiveness of the method of laser polarization microscopy emphasizes its potential as an important tool in forensic medical practice. Detailed information obtained using this method can significantly affect the understanding of the features of postmortem changes and the accuracy of determining the postmortem interval, and therefore the objectivity of expert conclusions.

Savka I.G.

PRESENTATION OF THE MODERN 3D MODELING METHOD INTO THE THEORY AND PRACTICE OF FORENSIC MEDICINE BALISTICS

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Introduction. More and more frequently, cases involving the use of firearms become the subjects of forensic investigations worldwide, occurring in civilian life as well as armed conflicts in various parts of the globe. This, in turn, necessitates the development of new methods for diagnosing gunshot injuries caused by various types of firearms.

The aim: The scientific study aimed to explore the capabilities of the modern 3D modeling method for various elements of gunshot wounds in the theory and practice of forensic medicine.

Materials and methods: The research began with a series of experimental shots, during which the morphological features were examined through their 3D spatial reconstruction. The entire series of experimental shots was conducted using an automatic pistol IZH 70-01 equipped with 9.0 mm caliber bullets. The ballistic clay Roma Plastilina No.1, manufactured in the USA, was utilized as a material for conducting standard ballistic tests according to the standards of the National Institute of Justice.

Results: The research was continued during the performance of forensic examinations involving actual cases of gunshot injuries. The dimensions of individual elements of the wound channel were measured in both experimental and expert cases using conventional measuring tools, as well as after their 3D modeling, using special graphic editors.

Conclusions. In the course of presentation and studying experimental and expert 3D models, the dimensions of individual morphological elements of the wound channel were recorded with an accuracy that exceeded the results obtained through measurements using traditional measurement methods by ten times.

Shilan K.V.

FORENSIC MEDICAL DIFFERENTIATION OF CIRCULAR DIKHOISM OF BIOLOGICAL TISSUES AND LIQUIDS OF CORPSES WITH DIFFERENT VOLUMES OF BLOOD LOSS

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Introduction. The development of accurate methods for determining the degree of blood loss is of great importance for forensic medical experts, because it contributes to increasing objectivity and accuracy in assessing the consequences of blood loss in the deceased and establishing the cause of death. Accurate determination of the volume of blood loss is critically important for objectively determining the degree of traumatic injuries, the circumstances of the events, and the establishment of justice. Existing methods often do not provide a high standard of accuracy, which can lead to unreliability in court decisions. The development of new laser polarimetry methods for determining blood loss will be a key step in increasing the reliability and objectivity of forensic examinations.

The aim of the study to develop modern criteria for forensic medical diagnosis of the volume of blood loss on the basis of differential Mueller-matrix tomography of circular dichroism of the polycrystalline component of biological tissues.

Material and methods. Biological tissues were collected: muscles, skin, spleen, kidneys, liver, and blood from 62 deceased persons with varying degrees of blood loss from 0 mm³ to 3500 mm³. The research was carried out using the method of Mueller-matrix tomography of biological tissues.

Results. The obtained results of the tomographic reproduction of the coordinate distributions of the circular dichroism value illustrate the presence of differences between the coordinate distributions of the histological sections of the biological tissues of the dead with different degrees of blood loss. The revealed fact of different distribution structures of circular birefringence of samples of biological tissues can be explained by the fact that the main factor in the formation of the coordinate structure of circular dichroism is the concentration of formed elements of blood. Therefore, with an increase in the degree of blood loss, the level and magnitude of the coordinate distribution of circular dichroism decreases. The obtained results demonstrate: SM₁ varies from 0,185 to 0,053; SM₂ - from 0,17 to 0,049; SM₃ - from 0,31 to 1,88; SM₄ from 0,45 to 2,45.

Conclusions. For all studied biological samples, the range of sensitivity of the method of differential Mueller-matrix tomography of the circular dichroism of the polycrystalline component to the change in the volume of blood loss is the maximum level of 0mm³-2500 mm³. The accuracy of the method ranges from: $\Delta V=0\text{mm}^3\text{-}2500\text{ mm}^3 \leftrightarrow 86\%\text{-}92\%$

Yasinskyi M.M.

APPROACH TO REHABILITATING PATIENTS WITH TEMPOROMANDIBULAR JOINT MUSCLE-JOINT DYSFUNCTION COMPLICATED BY PERIODONTITIS

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Introduction. Combining temporomandibular joint disorders (TMD) and periodontal disease leads to the inability to differentiate the patient's condition into separate nosological forms. Only a complex of diagnostic tests to refine clinical symptoms allows the development of the algorithms for preventive and therapeutic measures aimed at patient's recovery. The issue of timely diagnosis and rational treatment of patients with occlusion-related disorders of the masticatory apparatus is relevant in modern dentistry. The increasing relevance of rehabilitating such patients is due to the growing population with defects in dental arches, occlusion pathology and certain consequences of therapeutic, surgical, orthopedic and orthodontic treatment.

The aim of the study is to find out the ways of the rehabilitating patients with temporomandibular joint disorders (TMD) muscle-joint dysfunction complicated by periodontitis.

Materials and methods. The study of the anatomical features of the temporomandibular joint was carried out on 29 patients of the muscle-joint dysfunction complicated by periodontitis by the methods of modeling, miometry, radiography.

Results. Traditional treatment of localized traumatic periodontitis begins with the elimination of the traumatic factor that irritates the periodontal tissues by restoring contact points between teeth. The fundamental basis of orthopedic interventions in the comprehensive treatment of periodontal diseases is the elimination or reduction of traumatic overloading of the periodontium by restoring the spatial position of the lower jaw and selective grinding of teeth. However, there is no consensus on the optimal timing of this procedure. Most researchers believe that this intervention should be performed only in the presence of clinical signs of periodontal disease. Only some authors recommend starting the procedure before clinical signs of the disease appear.

One of the contraindications for selective grinding of teeth is acute and chronic TMD with MSD-associated pain syndrome. Selective grinding is indicated at the remission stage because it is difficult to fully examine the patient, obtain impressions for diagnostic models, determine and study the nature of tooth contact in different phases of articulation when pain is present. The ideal occlusion that dental professionals aim for in the treatment of patients is not limited to just having