**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**
**професорсько-викладацького колективу**
**БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ**
**03, 05, 10 лютого 2025 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку, які проводитимуться у 2025 році №1005249

**Чернівці – 2025**

УДК 61(063)
М 34

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.

Загальна редакція: професор Геруш І.В., професорка Годованець О.І., професор Безрук В.В.

Наукові рецензенти:
професор Батіг В.М.
професор Білоокий В.В.
професор Булик Р.Є.
професор Давиденко І.С.
професор Дейнека С.Є.
професорка Денисенко О.І.
професор Заморський І.І.
професорка Колоскова О.К.
професорка Кравченко О.В.
професорка Пашковська Н.В.
професорка Ткачук С.С.
професорка Тодоріко Л.Д.
професорка Хухліна О.С.
професор Чорноус В.О.

ISBN 978-617-519-135-4

**The aim of the study:** to substantiate the effectiveness of the use of autologous mesoconcentrate products - plasma rich in growth factors (PRGF) in clinical dentistry, their interfractional differentiation by the results of electron microscopic analysis.

**Material and research methods.** To study the density (number of occurrences in 10 $\mu m^2$) and diameter (Ø) of the formed fibrin fibers in the PRGF - F1 and F2 fractions of mesoconcentrate products, namely, insulating membranes (M) and obturating blocks (B), we used the method of morphological study using electron transmission microscopy.For evidentiary analytical substantiation, we performed scanning electron microscopy of fibrin strands, which provided high-resolution images of sample surfaces without destroying their architectonics. All electron microscopic studies were conducted in accordance with the Agreement on Scientific Cooperation between Danylo Halytsky Lviv National Medical University of the Ministry of Health of Ukraine and Bukovinian State Medical University of the Ministry of Health of Ukraine for 2024-2029, which is confirmed in the register of registration of agreements of the Scientific Department of BSMU, inc. No. 13/ND-01 dated January 15, 2024.

**Results**. The obtained results confirm the working hypothesis, i.e., the acceptable effectiveness of the study based on statistical analysis, which highlights the reliability of the results with the appropriate level of significance in the interfractional difference of PRGF F1-M, B and F2-M, B with a description of the diametric differences that are interrelated. This analysis of the density and diameter of fibrin fibers based on the results of electron microscopic examination, comprehensively confirmed by scanning electron microscopy and in the above fragment of clinical application, gives priority to the PRGF method with targeted fractional use (F1, F2) of mesoconcentrate products for targeted tissue regeneration, in particular in clinical dentistry according to its extensive indications.

**Conclusion.** The ordering of fibrin fibers in the fractionally formed mesoconcentrate products differs according to the results of intergroup analysis and by the average diameter and their density. The high reliability of the results was established in the third group of the study, where in the fractional comparison between PRGF F1-M and F1-B the value of $p=0.019$, with a slightly lower level of $p=0.024$ in the fractional comparison between PRGF F2-M and F2-B, describes the statistical significance of the diametric differences that are interrelated. The presented rationale is indisputable regarding the need for fractional distribution of autologous mesoconcentrate, followed by the formation of fibrin membranes that will primarily perform a barrier function and fibrin clots (blocks) used for controlled tissue regeneration.

**Pankiv T.V.**

## STRUCTURAL ORGANIZATION OF SUBCUTANEOUS ADIPOSE TISSUE OF THE SHIN IN HUMAN FETUSES IN NORMAL AND PATHOLOGICAL CONDITIONS

*Department of Pathological Anatomy*
*Bukovinian State Medical University*

**Introduction.** The early stages of life, especially the fetal stage of ontogenesis, are crucial for shaping metabolic health and obesity risk in adulthood. The prevalence of obesity and the discovery of the broader potential of different types of fat cells have led to a resurgence of scientific interest in the study of adipogenesis.

**The aim of the study.** The study aims to investigate the adipose tissue formation features of the shin in human fetuses of 7-8 months.

**Material and methods.** A microscopic examination of preparations of the upper, middle, and lower thirds of the lower leg of 12 human fetuses with a parietal-coccygeal length (PCL) of 231.0-310.0 mm was carried out. Staining of histological sections with hematoxylin and eosin was used. According to Mikel Calvo's method, a histochemical study of the protein with bromophenol blue was used to better contrast the protein elements of the structures. The percentage of multilocular cells was calculated on digital copies of optical images in the environment of the computer program ImageJ 1.53t (2022) with subsequent statistical processing of quantitative data using the open software "PAST" (Paleontological statistics, version 4.9 2022).

**Results**. During the late fetal stage adipose tissue on histological sections is represented by clusters of cells that resemble a plaque or a flat island in shape. Such clusters are located in one row immediately under the loose connective tissue that forms the fascia of the leg. Adipose tissue in fetuses of this age group also consists of two types of cells: larger - unilocular adipocytes with one large lipid droplet and a nucleus shifted to the periphery, smaller in size - multilocular adipocytes with multiple lipid droplets and a nucleus in the center. In the peripheral parts of the plaque, multilocular cells prevail, and in its central parts - unilocular cells. The percentage of multilocular adipocytes is 72.7±0.16% (confidence interval 67.8-77.8% at p=0.05). The probability of a difference in the percentage of multilocular adipocytes in fetuses with a PCL of 185.0-230.0 mm and 240.0-260.0 mm by Fisher's angular transformation was high (p=0.001), which is also confirmed by the absence of intersection of confidence intervals for the compared gestational periods. In individual plaque-like accumulations of lipocytes, branches of multilocular cell strands are observed from them outward to the epidermis. It is most likely that these strands are the source of the formation of new rows of plaque-like accumulations of lipocytes. From fetuses with a PCL of 270.0-291.0 mm, adipocyte islands are located in two or more rows. In particular, in a fetus with a PCL of 275.0 mm, the subcutaneous tissue is represented by three layers of fat cell clusters: superficial, medium, and deep, which differ in shape, number of cells, and percentage ratio. In fetuses of this age group, the total number of fat cells increases. The percentage of multilocular adipocytes was 57.8±0.17% (confidence interval 51.8-63.3% at p=0.05). The probability of a difference in the percentage of multilocular adipocytes in human fetuses of 7 and 8 months of gestation according to Fisher's angular phi transformation was high (p=0.009), which is confirmed by the absence of intersection of the applied confidence intervals for the compared gestational periods. In pathological conditions, the adipose tissue of the fetus may show altered distribution and size of unilocular and multilocular adipocytes, which can affect the balance and function of these fat cells. Additionally, under such conditions, an increase in inflammatory markers within the adipose tissue may occur, potentially influencing fetal energy storage and metabolic programming, with long-term implications for postnatal health.

**Conclusions.** Clusters of fat cells are located around blood vessels in fetuses between 7 and 8 months of gestation. At the end of the seventh month of gestation, the percentage of multilocular adipocytes decreases while the number of unilocular adipocytes increases. Starting from 8-month-old fetuses, adipocyte islands are arranged in two or more rows, which differ in their shape, number of cells, and percentage ratio.

**Pavliukovych O.V.**

## OPPORTUNITIES FOR PHYSICIAN PROFESSIONAL DEVELOPMENT AT THE POSTGRADUATE LEVEL THROUGH PARTICIPATION IN ADVANCED WORKSHOPS AT THE *ETAF* TRAINING CENTER IN UKRAINE

*Department of Forensic Medicine and Medical Law*
*Bukovinian State Medical University*

**Introduction.** This work presents the initial results of the Humanitarian Training Center, established by the European Training Center for Disaster Victim Identification (ETAF) and Forensic Sciences. The center, which focuses on forensic medical identification of mass disaster victims, was opened in September 2023 in Chernivtsi, at Bukovinian State Medical University and the Regional Bureau of Forensic Medical Examination. It was created in response to the full-scale invasion of the russian federation’s troops into Ukraine, with a mission to address humanitarian needs during armed conflicts and mass disasters.

At the postgraduate stage, physicians have unique opportunities to enhance their qualifications and expand their professional skills by participating in workshop organized by training centers and medical institutions. Such programs may include: Hands-on Skills Practice: workshop typically focuses on practical training, allowing physicians to directly acquire new techniques, use modern equipment, and learn the latest methods under the guidance of experienced specialists.