

**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
присвяченої 80-річчю БДМУ
05, 07, 12 лютого 2024 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,
які проводитимуться у 2024 році № 3700679

Чернівці – 2024

УДК 001:378.12(477.85)

ББК 72:74.58

М 34

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.

ББК 72:74.58

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.

Загальна редакція: професор Геруш І.В., професорка Грицюк М.І., професор Безрук В.В.

Наукові рецензенти:

професор Братенко М.К.

професор Булик Р.Є.

професор Гринчук Ф.В.

професор Давиденко І.С.

професор Дейнека С.Є.

професорка Денисенко О.І.

професор Заморський І.І.

професорка Колоскова О.К.

професор Коновчук В.М.

професор Пенішкевич Я.І.

професорка Хухліна О.С.

професор Слободян О.М.

професорка Ткачук С.С.

професорка Годоріко Л.Д.

професор Юзько О.М.

професорка Годованець О.І.

ISBN 978-617-519-077-7

© Буковинський державний медичний
університет, 2024

clinical group included 15 children who had septic coxitis. The third group included 77 children with other pathology of the locomotor system.

Results. According to our observations, transient synovitis is characterized by an acute onset and rapid development. There is pain in the morning, active and passive movements in the joint are limited, resembling a clinic of juvenile rheumatoid arthritis. These children almost always complain of lameness and joint ache when palpated. The body temperature is usually slightly elevated and rarely is high. However, since the pathogenesis of the disease is not yet sufficiently studied, detailed diagnostics must be performed before treatment is prescribed. In 43 children with transient synovitis (from the 1st clinical group) there were no general disorders found and local symptoms were prevalent, body temperature was normal, almost complete absence of changes in the parameters in both general and biochemical blood tests, as well as indices of acute inflammation remained intact - C-reactive protein, antistreptolysin-O, sialic acids and others. Taking into account the received data, antibacterial drugs were not administered and this group was defined as a comparative one. In the analysis of both current and long-term results, no distinction was found between the main group and the comparison group. In both groups the results were negative in those cases when bacteriological investigation of synovial fluid was performed.

Conclusion. The optimization of complex treatment of transient synovitis in children has allowed rejection from the administration of antibacterial drugs in some of clinical cases.

Tulyulyuk S.V.

REGENERATION OF THE BONE TISSUE IN THE CONDITIONS OF IODINE- DEFICIENCY REGIONS

Department of Traumatology and Orthopedics

Bukovinian State Medical University

Introduction. The issues of bone regeneration are urgent in traumatology. To learn the factors affecting osteogenesis is one of the approaches to solve the problem. An important part of reparative osteogenesis is the state of a bone on the moment of injury. It depends on a number of endogenous and exogenous factors including endemic ones surrounding people. Today numerous researches evidence the effect of the thyroid hormones on the development and metabolism of the skeletal tissues. Chernivtsi region is characterized by iodine and selenium deficiency. These are elements playing a key role in a proper function of the thyroid gland. About 30% of the residents of Northern Bukovyna have subclinical and clinical signs of thyroid pathology.

The aim of our study is to present the results of the research concerning the bone tissue regeneration under conditions of iodine deficiency.

Materials and methods. The study was conducted on 63 albino 3-month rats. Iodine deficiency was simulated by means of adding sodium perchlorate to drinking water (1 mg per 100 g of the body weight) during 1 month. In this way, hypothyroidism was simulated. The control group was kept under usual conditions. Femoral fracture of rats was examined and observed for 21 days. 3 days after injury a hematoma was found in the injured area without any signs of rebuilding. Histological examination found a number of erythrocytes, leukocytes and the remains of the ruined cells between thick fibrin fibers. On the 7th day in the animals from both groups, the area between the fragments of the cortical layer was filled with the network of young bone trabeculae and fibrous-reticular tissue. Inconsiderable remains of the blood clot were detected in the granulation tissue. On the 14th day, the young bone tissue, fibrous-reticular tissue and small hematoma remains were detected in the area of the femoral defect in all the groups of the rats examined. A relative surface of the bone tissue in the area of the defect in animals receiving sodium perchlorate was found to be 1,18 and 1,32 times lower as compared to the control group. On the 21st day, the bone tissue formed in the area of the defect in rats of both control and research groups. The tissue connected the margins of the maternal bone. Nevertheless, the bone tissue of rats in the first group was worse due to the formation of microcracks, basophilia of cement lines, increased osteocinar osteolysis. It was evidenced by extended lacunae of osteocytes with uneven outlines.

Results. Considering the process of reparation of the bone integrity as a complicated one, we should keep in mind that it depends on many factors. This process requires essential comprehensive clinical studies of the patient somatic condition, especially those residing in the regions with iodine and selenium deficiency with the aim to prevent disturbances of reparative regeneration. Based on multifactorial development of fracture healing disorders, it should be noted that treatment must be differential and individual. This approach allows compensation of those changes leading to disorders of reparative regeneration of the bone tissue in every particular patient.

Conclusions. Thus, in the group of animals with simulated hypothyroidism the terms of formation of the bone regenerate were slow. The quality of regeneration process was worse due to secondary rebuilding associated with the failure of the regenerate to withstand the load. A comprehensive treatment of rats with Iodomarine 100 and Selenium active promotes quicker course of reparative osteogenesis specific for the control animals. Iodine containing drugs should be administered to patients residing in the territories with iodine deficiency.

Vladychenko K.A.

MODERN METHODS OF RESEARCHING THE DEVELOPMENT OF THE URINARY SYSTEM IN THE EMBRYONIC PERIOD OF HUMAN ONTOGENESIS

*Department of General Surgery, Urology and Neurosurgery
Bukovynian State Medical University*

Introduction. Adequate assessment of embryonic development is important to understand normal growth of the embryo or to detect abnormalities. In 1914 Franklin Moll, the founder of the Department of Embryology at the Carnegie Institution in Washington, first used the staging of human embryonic development. The Carnegie staging system describes the first nine weeks of pregnancy and is based on the physical parameters of the embryo. At the final stage, all the main systems of internal organs are present, this stage means the end of the embryonic period of development.

The aim of the study. Knowledge about the anatomy of embryos is largely based on the analysis of histological preparations, but in recent years, several new methods have appeared for the study and evaluation of morphological structures. Blaas in 1999 described that ultrasound examination data in the 1st trimester of pregnancy are in good agreement with the Carnegie staging system. Researchers O'Rahilly and Muller indicate that there are variations between embryonic age and morphometric indicators. In 2006 Blaas measured the size of human embryos using 3D ultrasound.

Material and methods. Only relatively recently, modern scanning technologies began to be used for morphological studies and visualization of human embryo structures: optical projection tomography (OPT; Kerwin et al., 2010), high-resolution episcopic microscopy (HREM; Weninger et al., 2006), episcopic capture of fluorescent imaging (Yamada et al., 2010) and magnetic resonance imaging (MRI; Yamada et al., 2006, 2010). The advantage of these imaging methods is that they provide perfectly registered cross-sectional images that allow for high-quality 3D reconstructions. Embryo development databases based on both modern imaging technologies (Kerwin et al., 2010; Weninger et al., 2006; Yamada et al., 2010) and traditional histology (de Bakker et al., 2016) are used to training and atlases of human embryos. Some of these data are available for visualization and download (e.g. <https://www.3dembryoatlas.com>).

Results. Digital 3D models of the human embryo (Yamine and Violato, 2015), which can be printed using a 3D printer, have begun to be used in the educational process. The use of 3D printing technology is already used in anatomical education.

The accurate determination of embryonic stages in the first trimester will be a promising non-invasive tool for assessing the development of embryos in the early stages of pregnancy. Carnegie stages are determined based on the external morphological features of embryos with the help of 3D ultrasound examination and image processing by a 3D virtual reality system. The previous technique was called virtual embryoscopy.