МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

М А Т Е Р І А Л И

105-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
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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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Results. In the patients of the main and control groups, in whom the postoperative period passed without complications, there was a normalization of general blood analysis indicators, biochemical indicators, indicators of blood toxicity, indicators of cellular and humoral immunity, and a decrease in bacterial contamination. However, in the patients of the main group, the above indicators were normalized earlier in comparison with patients of the control group, which allowed to reduce the duration of postoperative treatment. The average length of stay in the hospital in patients of the control group was 11.5 ± 0.45 days, in patients of the main group - 9.31 ± 0.57 days.

Conclusions. The use of the proposed drainage-sorption device in the complex treatment of patients with diffuse peritonitis makes it possible to lower the level of endotoxicosis, normalize the temperature, and activate the factors of non-specific protection, cellular and humoral links of immunity, compared to traditional treatment. The use of the proposed method of treatment made it possible to reduce the number of postoperative complications and the length of stay of patients in the hospital.

Boiko S.I.

HERNIA TISSUES MORPHOLOGY IN PATIENTS WITH CHRONIC INGUINAL HERNIAS

Department of General Surgery, Urology and Neurosurgery
Bukovinian State Medical University

Introduction. During last years the incidence of inguinal hernias has grown significantly. The complications development in these patients after inguinal hernioplasty reached 6-18%. It can be explained by the fact that during surgery and postoperative period surgeons don't take into consideration all the aspects of complications pathogenesis in elderly patients.

The aim of the study. The objective of the study was to evaluate the morphological changes of hernia sac and hernia-surrounding tissues in inguinal hernias.

Material and methods. For the research purpose we used biopsy specimens of hernia tissues of 24 patients (aged 60-83, on average 67.47±2.54 yrs.), obtained during the inguinal hernioplasty. Special attention was paid to evaluation of the muscular tissue atrophy and development of cicatrize and inflammatory changes. Hernia sac, subcutaneous cellular and muscular tissues and, in some cases, preperitoneal cellular fat were evaluated. Fragments of tissues were preserved and processed in accordance to histological standards.

Results. Principal sings of chronic inflammation of the hernia sac in all 24 patients were studied. In 8 (33.3%) patients isolated inflammation of hernia sac tissues was found, and in 16 (66.7%) patients it was associated with chronic inflammatory changes of hernia-surrounding tissues. In 6 (25.0%) patients with the recurrent inguinal hernias the inflammatory changes of hernia sac and hernia-surrounding tissues were very pronounced and associated with their cicatrize changes. In all patients pronounced atrophic changes of the muscular tissues were determinated. The use of "suture-free" techniques in elderly patients may reduce inflammatory changes impact on healing greatly, though they don't provide a complete protection.

Conclusions. Inflammatory and cicatrize changes after the suture methods of hernioplasty cause ischemia, atrophic and cicatrize changes in muscles during postoperative period, making these methods of surgery not sufficiently effective.

Dudko O.G.

BIOMECHANICAL BEHAVIOUR OF POLYAMIDE-12 AND STAINLESS STEEL SCREW IN BONE TISSUE

Department of Traumatology and Orthopaedics
Bukovinian State Medical University

Introduction. For osteosynthesis stainless screws are used alone or in combination with plates and nails. So as the polymeric screws made of polyamid-12. The fixation properties of screws depend from many factors, but one of the most important is the mechanical properties of the

material that was used for its manufacturing. To study the biomechanical interactions between the screw and the bone tissue under various applied loads the use of computer modelling is helpful.

The aim was to study biomechanical behaviour between the screws made of different materials (stainless steel and polyamide-12) and the bone tissue. The biomechanical evaluation of the computer models of AO screws and cortical layer were made in Autodesk Fusion 360. The axial loads of 100 N, 500 N, 1000 N were applied to each screw. The bone was modelled as monocortical and bicortical layers with the thickness of 5 mm. The stress differences in a screw and surrounding tissues were determined, as well as displacement of a screw.

Results. For both types of screw material there was the relation between the thickness of cortical layer and the force applied with the displacement of the screw. With the increasing of the applied force to the stainless steel screw in its axial direction from 100 N to 1000 N, the maximum stress in screw increased from 6.8 MPa to 67.5 MPa for monocortical fixation, and from 4.2 MPa to 42.5 MPa for bicortical fixation. For the force applied to polyamide-12 screw on its axial direction from 100 N to 1000 N, the maximum stress in screw increased from 9.5 MPa to 94.5 MPa for monocortical fixation, and from 33.4 MPa to 33.4 MPa for bicortical fixation. The peak stress in the surrounding bone tissue was decreasing when the second cortical layer was additionally modelled for both types of screw material.

Conclusions. The mechanical strength of fixation was related with the number of bone cortical layers and with the material of the screws. The nonlinear adverse correlation between the stress appeared and the number of the cortical layers and the material mechanical properties were found. Though the mechanical parameters of polyamide-12 were lower than of metal screws, but achieved results showed that their fixation strength is enough for internal fracture fixation in non-weight bearing areas.

Fedoruk O.S.

THE ROLE OF REACTIVE STROMA IN THE DEVELOPMENT OF PROSTATE CANCER

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

Introduction. Morphologically, cancer of the prostate gland in most cases is represented by adenocarcinoma. In addition to the typical morphological picture of adenocarcinoma, pancreatic cancer has numerous variants of other histological structures. Microscopically, dark and light tumor cells forming shallow-, large-acinar, solid, cribriform or trabecular structures are detected. During the histological examination, the main attention is paid to atypical cells, and the histological conclusion practically does not highlight changes in the stromal component.

The aim of the study. Studies have established that at the initial stages of carcinogenesis in the prostate gland, changes are observed mainly in the stromal component in the form of reorganization of stromal cells, restructuring of the extracellular matrix, increased bioavailability of growth factors, increased protease activity, production of inflammatory factors. These changes were designated by the term "reactive stroma". Morphologically, this process is manifested by a change in the architecture of the extracellular matrix, an increase in the number of fibroblasts, and stromal-vascular changes.

Material and methods. Fibroblasts and smooth myocytes are the main cells in the stroma of the prostate gland. Their main function is the synthesis of structural and regulatory components of the extracellular matrix. The extracellular matrix is a plexus of fibrillar proteins, adhesive glycoproteins and proteoglycans, as well as the source of active and latent growth factors. Together stromal cells and the extracellular matrix form an environment that regulates the growth and differentiation of neighboring cells.

In pancreatic cancer, the stromal cell type is characterized by the presence of myofibroblasts, which are formed from fibroblasts located next to atypical cells. Proteolytic destruction of the basement membrane is an important step in the process of tumor invasion. In the