

For the research purpose we used bioplates of hernia tissues of 24 patients (aged 60-83, mean 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. The following tissues were evaluated hernia sac, subcutaneous cellular tissue, muscular tissue and, in some cases, preperitoneal cellular fat. Fragments of tissues were preserved and processed in accordance to histological standards.

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 were 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. Use of suture-free techniques in elderly patients may greatly reduce inflammatory changes impact on healing, though not providing complete protection.

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.

Rotar O.V.

CHANGES OF INTESTINAL MICROBIOTA AT ACUTE PANCREATITIS

*Department of General Surgery
Bukovinian State Medical University*

Gut is recognized as main source of bacterial translocation during severe acute pancreatitis (SAP). Besides other factors changes of intestinal microbiota directly influence on rate of microorganisms spreading from intestine and may serve as prognostic factor of severity pancreatic infection.

To investigate the changes of luminal and mucosal microbiota of gut during SAP. In 70 Wistar rats SAP was induced by intraperitoneal injection of 250 mg/100 g of 20% L-arginine solution twice during 1 hour. Concentration of luminal and mucosal bacteria in colon and distal ileum were investigated during 24-120 hours by bacteriological methods.

In colon amount of autochthonous physiologically useful microflora decreased during all period of SAP: after 72 hours *E. feacalis* eliminated, after 120 hours *Bifidobacteria* spp. disappeared and *Lactobacteria* spp. were found only in 2 from 7 animals. In such condition concentration of autochthonous facultative and allochthonous microorganisms *Staphylococcus* spp., *Clostridia* spp., *Enterobacteria* spp. and *Candida* spp. reached 3,5-4,5 log CFU/g. In distal ileum concentration of *Lactobacteria* spp., *Bifidobacteria* spp., *E. feacalis* felt from 6,51-6,81 log CFU/g till 3,57-4,8 log CFU/g after 24 hours, and they absolutely disappeared after 48 hours until 7 day. Due to profound deficit of physiologically useful microflora amount of *Peptococcus* spp., *Staphylococcus* spp., *Clostridia* spp. and especially *Enterobacteria* spp. (*Klebsiela*, *Edwardsiela*, *Proteus*, toxic strains of *E. coli*.) reached higher level than in colon.

During SAP changes of distal ileal microbiota, especially mucosal, were more significant than in colon. Thus bacterial translocation from distal ileum may occur in a higher level.

Shutka V.Ya.

MODERN METHODS OF TREATMENT OF BRAIN TUMORS

*Department of Urology and Neurosurgery
Bukovinian State Medical University*

Brain tumors account for 6 to 8.6% of the total number of human tumors. The aim of our work was to study additional methods of treating brain tumors, namely, modern non-invasive technology of radiation therapy Cyber-knife. Cyber-knife is a modern non-invasive technology of radiation therapy, which allows to provide an alternative to surgery for the localization of gliomas in the median parts of the brain. Although the very name of the method may be associated with a

scalpel and traditional surgery, this method refers to radiation therapy, that is, the use of radiation to destroy tumors. There are no incisions, scars or complications associated with surgery.

Materials and methods: the expert evaluation of the treatment of 6 patients with brain tumors by non-invasive radiation therapy and 32 patients by traditional surgical method for 2019-2021 was studied and conducted. We analyzed the results of treatment of glial tumors of the brain in 38 patients, men - 26 and women - 12 aged 36 to 65 years. It was found that the survival time for traditional treatment (surgery, radiation therapy and chemotherapy) is on average from 9 months to two years, and for therapy using a cyber-knife from 6 months to 1.5 years.

Therefore, according to our data, the main method of treatment is the surgical method. For a long time it was believed that surgical removal of a brain tumor is associated with high risk and complications, but in the last 15-20 years there has been a revolution in the technique of neurosurgical operations. However, surgery is not always possible, for example, due to the large size of the tumor, or due to the location of the tumor in a vital area of the cortex. If surgery is not possible, as well as after surgery, in order to destroy cancer cells that may remain in the operating field radiation therapy is conducted. Radiation therapy is selected individually and depending on the cell composition of the tumor, its size and location.

Solovai M. M.

PHASE TOMOGRAPHY OF THE POLYCRYSTALLINE OF BLOOD FILMS

Department of General Surgery

Bukovinian State Medical University

Our study is aimed at developing the principles of differential diagnosis of the severity of the septic process by using a digital technique of phasometric mapping of microscopic images of blood films of laboratory rats. This technique is based on determining the medical-relevant relationships between the phase maps of microscopic images of blood films of laboratory rats and the severity of the septic process. The experimental measurement of the coordinate distributions of the magnitude of the phase shifts was carried out at the location of the laser micropolarimeter. The structure of the study of the polycrystalline component of rat blood biological films in the differential diagnosis of septic severity by digital polarization-phase microscopy consists of the following experimental and analytical steps: 1. Representative samples of polycrystalline blood films of the following groups of rats are formed: Intact rats - "control" group 1 (39 samples); Sick rats (sepsis – light form) - "research" group 2: duration 12 hours. (39 samples) - "experimental" subgroup 2.1; duration 48 hours. (39 samples) - "experimental" subgroup 2.2. Sick rats (sepsis – middle form) - "research" group 3: duration 12 hours. (39 samples) - "experimental" subgroup 3.1; duration 48 hours. (39 samples) - "experimental" subgroup 3.2. Sick rats (sepsis – severe form) - "research" group 4: duration 12 hours. (39 samples) - "experimental" subgroup 4.1; duration 48 hours. (39 samples) - "experimental" subgroup 4.2. Within each of the four groups for each sample of blood films carried out: measurement of the coordinate distribution of the magnitude of the phases in pixels of a digital microscopic image calculating the size of the set of statistical moments of the 1st – 4th orders characterizing the average S , dispersion D , asymmetry A , and excess E of phase size distributions. For the obtained group sets (average S , dispersion D , asymmetry A and excess E), average values and fluctuations of the statistical moments of the 1st – 4th orders are determined/For all groups of biological preparations, a cross-analysis of the statistical reliability of the obtained data is carried out and objective criteria for differential diagnosis of the presence of the septic process and its severity are determined by polarization-phase microscopy. From the obtained results it follows that for septic conditions, a decrease in the phase-shifting ability of the polycrystalline component of rat blood films from all research groups is inherent. This fact is indicated by a decrease in the average and dispersion of phase shifts at the points of microscopic images. Such a transformation of the statistical structure of phase maps is associated with necrotic degradation (anemia) of optically anisotropic hemoglobin structures, as well as with a decrease in the number of optically active red blood cells in rat blood altered due to the inflammatory process with different severity of the inflammatory process.