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THE REPRODUCTIVE FUNCTION CHANGES IN MEN WITH INGUINAL HERNIA

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According to the data, 20 men out of 1000 are hernia carriers (2%), of which inguinal hernias are diagnosed in about 75%. Nowadays, infertility is a very important medical and social problem. The share of infertile marriages is increasing every year and currently is about 15%. One of the etiological factors of male infertility is the presence of inguinal hernia. That is why the aim of the given study was detailed upon the inguinal hernia effect on male reproduction.

The study included 10 healthy volunteers (control group) and 49 patients with oblique inguinal hernia (main group). All patients were of reproductive age from 18 to 45 years old (average age of men in the main group was 32.7 ± 6.69 years, and in the control group was 33.1 ± 6.98 years).

Tests of blood circulation in the testicular arteries were performed on an ultrasound scanner. Hemodynamic parameters were studied: peak systolic blood flow velocity (PSFV), terminal diastolic blood flow velocity (TDFV), mean linear blood flow velocity (MLFV) and resistance coefficient (RC). The study was performed on the healthy and affected sides.

Analyzing the obtained data, no significant difference in blood flow was found in the control group. Instead, the data obtained in the main group show a significant decrease in all indicators of blood flow velocity, namely PSFV – 18.9 ± 0.49 cm/s against 21.7 ± 0.57 cm/s in healthy individuals, TDFV – 5.1 ± 0.33 cm/s against 7.2 ± 0.46 cm/s in healthy individuals and MLFV – 9.7 ± 0.31 cm/s against 12.0 ± 0.42 cm/s in healthy individuals ($p < 0.01$ for all indicators). Along with these indicators, the R is significantly increased – 0.73 ± 0.018 against 0.67 ± 0.019 in healthy individuals ($p < 0.05$).

Doppler examination of blood circulation in the testicular arteries showed that in comparison with the unaffected side, the preserved blood flow was only in 61.3% of patients. That is explained by inguinal hernia worsening arterial blood supply to the testis, which was observed with increasing duration of hernia, especially of more than 36 months.

The volume of the testis on the affected side was lower, approximately 18.5 ± 0.36 cm³ ($p < 0.05$) comparing with the same indicator in healthy individuals, 21.6 ± 0.44 cm³. These data once again prove the negative impact of the inguinal hernia on the condition of the testicles. Antisperm antibodies were detected in 30.1% of patients in the main group, while in the control group antisperm antibodies were not detected in any of the subjects. The obtained data can be explained by the destruction of the blood-testicular barrier structures, mainly at the pressure of the contents of the hernia on the elements of the spermatic cord.

Male reproduction changes can be explained by the pressure of the hernia sac on the vessels of the spermatic cord, which increases with a long herniation period and impairs testicular blood supply. That is why the need for early surgical treatment of inguinal hernia is a must, especially in people of reproductive age.

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MORPHOLOGICAL CHANGES OF TISSUES IN PATIENTS WITH CHRONIC INGUINAL HERNIAS

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

Objectiv of the study was to evaluate the morphological changes of hernia sac and hernia-sarrounding tissues with inguinal hernias.

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-sarrounding 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.

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CHANGES OF INTESTINAL MICROBIOTA AT ACUTE PANCREATITIS

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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.

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MODERN METHODS OF TREATMENT OF BRAIN TUMORS

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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