from the primary tumor and to gain the property that allows them to invade other organs and tissues, forming metastatic growths. In the end of this process, a cancerous cell must be able to multiply under conditions that for a normal cell would not be possible. Angiogenesis and lymphangiogenesis have an important role for tumor growth and development of metastasis. Different types of cancer genes like oncogenes and tumor suppressor genes are also involved in cancer development. If these genes gain mutations, it may lead to abnormal cell proliferation and suppression of apoptosis. Several internal factors like age, genetic predisposition, sex, along with other extrinsic factors such as chemical substances, radiations, food, tobacco have an indisputable role in determining cancer risk.

Conclusions. All the accumulated knowledge about the development and progression of cancer must be used in order to develop more precise diagnostics and more effective and less toxic cancer therapies. The goal of contemporary medicine should be oriented to offer to every patient that suffers from cancer a therapeutic regimen that is tailored to his individual disease in an optimal way.

Key words: neoplasia, oncogenes, metastasis, angiogenesis

DEPARTMENT OF MORPHOPATHOLOGY

268. EPITHELIO-MESENCHYMAL TRANSITION PROCESS IN THE PATHOGENESIS OF EXTRAGENITAL ENDOMETRIOSIS

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Introduction. Epithelial – mesenchymal transition (EMT) endows cells with migratory and invasive proprieties, a prerequisite for the establishment of endometriotic lesions. The role EMT might play in the pathophysiology of endometriosis is still unknow. Therefore, we examined four markers for EMT in endometrium and endometriosis: E – cadherin + Vimentin, double reactions and simple reactions Twist and N – cadherin.

Aim of the study. Immunohistochemical assessment of the invasiveness potential of extragenital endometriosis lesions by investigating some of the specific markers (β-catenin / vimentin panel) of the epithelio-mesenchymal transition process (EMT), a process by which epithelial cells lose their polarity and contact with the polarity and contact invasive.

Materials and methods. During a period of five years (2012 – 2017) we analyzed 41 cases of extragenital endometriosis: appendix 5, colon 7, intestine 8, anterior abdominal wall after caesarean operation- 10, inguinal hernia – 6, umbilical hernia- 4, perineal region- 1. The material was processed according to the classic histological technique by inclusion in paraffin. The 3 μm sections obtained were stained with Hematoxylin – Eosin and Masson's trichrome stains. Another sections were dewaxed, rehydrated and processed for immunohistochemistry using as primary antibodies monoclonal antibodies Vimentin and mouse monoclonal antibody N – cadtherin, E – cadherin, Twist.

Results. Immunohistochemically, we aimed to change the immunophenotype from epithelial to mesenchyme in extragenital endometriosis by analyzing the most important markers of the

transition process. In endometriosis and endometrium E – cadherin, Vimentin, N – cadherin and Twist were expressed on protein level. Investigation of E – cadherin / Vimentin coexpression revealed a decrease in E – cadherin reactivity at the site of invasion of gastrointestinal endometriosis with an increase in reactivity to Vimentin together with the increase of the invasion pattern and the increase of the stage of the disease respectively. Twist transcription factor immunoexpression revealed a highly positive expression on the mesenchymal lineage, proving involvement of this transcriptional factor in the invasion process of endometriosis. N – cadherin was positive in the endometrial glands, showing their differentiation into a mesenchymal phenotype and their migratory potential.

Conclusions. The results of our study confirm involvement of the epithelial – mesenchymal transition process in the pathogenesis of extragenital endometriosis lesions, on the one hand, and they certify their invasive potential in these localizations, on the other hand.

Key words: endometriosis, extragenital, transition prosses

269. STUDY OF MORPHOLOGICAL CHANGES THAT OCCUR IN THE KIDNEYS AND LIVER OF RATS UNDER THE INFLUENCE OF ACUTE STRESS WITH MEXIDOL CORRECTION

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Introduction. One of the major problems of medicine is the effective prevention and treatment of stress. Many organs and tissues of the body are adversely affected. However, the effects of stress and the correction of stress changes in the kidneys and liver were not given much attention by scientists.

Aim of the study. To establish at the morphological level the effectiveness of using Mexidol to correct changes that occur in the kidneys and liver of white rats under the influence of acute immobilization stress.

Materials and methods. Given the international principles of bioethics, 15 adult white male rats were selected for study. The I control group consisted of 5 intact animals, the II control group consisted of 5 animals that were exposed to acute immobilization stress and the III group consisted of 5 rats whose stress was corrected with Mexidol. A model of acute stress was reproduced by immobilizing animals for six hours. To correct stress changes Mexidol was injected once into the peritoneum weight 20 minutes before the fixation period. Animal euthanasia, macro- and microscopic examination of the kidneys and liver were performed. The staining of kidney and liver micropreparations with hematoxylin and eosin was performed according to the standard procedure.

Results. On examination of the kidneys and liver of rats II and III groups macroscopic changes were not detected. Microscopic examination of kidneys revealed widening of the lumen of the convoluted tubules and in some of them are homogeneous eosinophilic masses. In the cytoplasm of epitheliocytes are vacuoles with translucent fluid. Epithelial cell necrosis. In the peritubular vascular system are focal hemorrhages. Stress histologic changes of the liver are characterized by full-blood vessels and thrombosis of the interlobular veins. The central veins of the liver are full-blooded, the perisinusoid spaces are enlarged. The phenomenon of sledging