also contains discrete vasopressinergic and oxytotic magnocellular neurons, also projecting to the posterior pituitary along the supraoptico-hypophyseal tract. The PVN contains additional, smaller parvocellular neurons that project to the median eminence and additional extra-hypothalamic areas including forebrain, brain stem, and spinal cord. Some of these parvocellular neurons are vasopressinergic. The neurohypophysis is the structural foundation of a neuro-humoral system coordinating fluid balance and reproductive function through the action of two peptide hormones: vasopressin and oxytocin. Vasopressin is the main endocrine regulator of renal water excretion, facilitating adaptive physiological responses to maintain plasma volume and plasma osmolality. Oxytocin is important in parturition and lactation. Data support a wider role for both peptides in the neuro-regulation of complex behavior. Clinically, deficits in the production or action of vasopressin manifest as diabetes insipidus. An understanding of the physiology and pathophysiology of vasopressin is also critical in approaching the diagnosis and management of hyponatraemia, the most common electrolyte disturbance in clinical practice.

Conclusions. The neurohypophysis represents a unique tissue having neural and endocrine characteristics and possessing ultrastructural features distinct from those of conventional endocrine organs such as the anterior pituitary, thyroid, pancreatic islets, etc. In contrast to these glands, the neurohypophysis consists from the processes of mature neurons, therefore, it is not capable of synthesizing hormones but only of their storage and release. On the other hand the hormones that it releases in the blood stream seems to have a higher impact on the physiological processes of human homeostasis and complex behavior, than it was originally thought back in the days.

Key words: Neurohypophisis, Oxitocin, Vasopresin

267. ONCOGENESIS – CONTEMPORARY THEORIES AND CONCEPTS

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Introduction. Nowadays, cancer is the second leading cause of death globally and it is estimated that in next years, the number of new cases is going to rise. So, this disease has a great impact on physical, emotional and financial aspects of everyone's life and it would be better to prevent it consequences that to bear them.

Aim of the study. Carcinogenesis may result from the action of different factors such as chemical, physical, biologic and/or genetic injuries that affect human cells. In order to discover new methods of treatment, it is important to know how cancer appears, what factors may accelerate this process and how malignant cells start to spread throughout the body.

Materials and methods. This review represents a synthesis of current information about carcinogenesis from online biomedical literature such as - journals and books, including more than 30 references.

Results. Cancer is a general term that describes a large variety of diseases. The common characteristic of this process is the transformation of a normal cell into a cancerous one. Oncogenesis is divided into three stages: initiation – when one or more stable cells are exposed to the action of a carcinogen factor; promotion – where the initiated cells start to expand by self-proliferation leading to abnormal growth; and progression – where the cells start to detach

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