278. IMMUNOHISTOCHEMICAL MARKERS SPECIFIC FOR PRIMARY CARDIAC TUMORS

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Introduction. Immunohistochemistry provides useful information in the study of tissues and cells, using antibodies to identify antigens of the examined tissue samples. In the last decades, special attention has been given to immunohistochemical markers, due to their specificity and high sensitivity in identifying the histological origin of tumors. This is useful in performing differential diagnosis and establishing the definitive diagnosis of cardiac tumors, which facilitates the determination of treatment tactics and the prognosis of pathology.
Aim of the study. In this paper, we aim to analyze the literature and to make a synthesis of the immunohistochemistry particularities in the study of cardiac tumors, namely the identification of the immunohistochemical markers characteristic for each histological type of cardiac tumor.
Materials and methods. We reviewed the pertinent literature by a selective PubMed search on the terms "cardiac tumor", "immunohistochemistry", "immunohistochemical markers". We analyzed not only various scientific articles, but also specialty books by renowned authors.
Conclusions. Each cardiac tumor has its immunohistochemical markers depending on the tissue from which it is formed. Knowing these markers facilitates identification of the studied tissue. Our review study revealed that unlike benign tumors, malignancies exhibit positivity for cell proliferation markers (Ki-67, PCNA). It is important to mention that the use of immunohistochemical markers of cardiac tumors allows performing differential diagnosis, the establishment of a definitive diagnosis, the right choice of treatment and the determination of the prognosis of the pathology.
Key words: cardiac tumor, immunohistochemical markers, immunohistochemistry

279. THE FUNCTIONAL PROFILE AND THERAPEUTIC APPROACHES OF THE TUMOR ASSOCIATED MACROPHAGES

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Introduction. Macrophages are one of the most flexible immune cell of our body. Recent studies have elucidated their involvement in the tumour pathology too. There are two types of macrophages: M1 (pro-inflammatory) and M2 (anti-inflammatory). Macrophages that populate the tumours undergo morphologic changes and are called tumour-associated macrophages (TAM). It is assumed that these cells express a phenotype M2, which are responsible of tumorigenesis and metastases. Furthermore, TAM interact with many cells, as effector T-cell, neoplastic cells, endothelial cells, etc. Through these interactions, these cells can promote angiogenesis, metastasis, cancer cell stemness, also chemotherapeutic resistance, immunosuppressive functions.
Aim of the study. This review will study the polarization states of macrophages, their functional profile and role in cancer, and therapeutic approaches of the tumour-associated macrophages.
Results. Among the innate and adaptive immune cells that are involved in the tumour microenvironment, macrophages are particularly abundant and are present in all stages of tumour progression. M1-like TAM are stimulated by LPS, IFN-γ and/or GM-CSF that produces a variety

of pro-inflammatory and thereby anti-tumour cytokines and chemokines. M2-like TAM are stimulated by tumour-derives like interleukines: IL-4, IL-13, IL-10, M-CSF and/or lactic acid. Consequently, M2- like TAM secrete a spectrum of anti-inflammatory and pro-tumour cytokines, chemokines and signalling molecules. Therefore, TAM could be either tumour killing (M1) or tumour promoting (M2); this data suggests that macrophages are attractive targets for improving of new combined immunotherapy to the fight cancer. Combining inhibitors that target the CCL2-CCR2 and CSF1-CSF1R reduces macrophage migration and pro-tumour activation, so this fact stops tumour growth and metastasis formation. More than that, the inhibitors supplies chemotherapeutic regimen in early phase clinical trials.

Conclusions. Certainly, macrophages play an important role in tumour progression and metastasis due to the plasticity they express during activation, especially in vivo. Current approaches to cancer immunotherapy using macrophages involve multiple cytokines and chemokines that can cause immune responses. The application of these therapies have been shown to reduce tumor size and angiogenesis, recruit immune cells to the tumor site, and prevent the polarization of macrophages to an M2 phenotype.

Key words: tumor associated macrophages, macrophage polarization, tumour, immunotherapy

280. THE IMPACT OF DEMYELINATION ON THE NERVOUS SYSTEM

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Introduction. The present study is devoted to vascular disorders, which cause cerebral circulation disorders, which are manifested by morphopathological changes of the vascular nervous system. Research done is necessary not only from the point of view of theory, but it is also important for practical neurology, for a correct assessment of the changes, produced within norms and in various pathologies.

Aim of the study. To study the paravasal and adventitious neurosceptors of blood vessels in some vascular disorders.

Materials and methods. This study was made possible by the use of various classical and contemporary histological techniques (macroscopic, microscopic, histological, histochemical) exploration.

Results. By investigating the cerebral blood vessel receptor, we mention that in vascular affections the nerve elements in the blood vessels undergo different changes. Nerve fibers, as well as receptors with signs of excitement and even degeneration, have been found on various portions of the vessels in their nervous system. There are reactive changes in the nervous system of the wall of the arteries and their branches. The most pronounced changes are supported by the sensory composition of the vessel's nervous system. Many nerve fibers are intensively impregnated with silver. They become thicker, and sinuous. Various forms of varicose thickening appear along them. The most common are in the composition of adventitial nerve bundles and nerve plexus. Such fibers are intensely colored and thicker, and there are sometimes well-defined thickenings (excitation reaction). Much more pronounced structural changes occur on nerve fibers outside vascular nerve plexuses, which are manifested by impregnation with the presence of well-pronounced thickened portions and thin sections of fibers, which sometimes break. The preterminal portions of the nerve fibers are modified differently. The most common are sinuous, intensely colored, deformed. Also, the terminal portions of the receptors, which are manifested by the appearance of pronounced coloration, to the irregular shape of the thickening, are also modified. Myelin nerve fibers show signs of pronounced argentophilia and uneven