RESULTS OF IMMUNOHISTOCHEMICAL RESEARCH IN ASSESSMENT OF PATHOLOGICAL CHANGES IN INFLAMMATORY UROLOGICAL DISEASES

Shadmanov Jakhongir Alisherovich
Tashkent Medical Academy

Relevance of the problem. According to WHO data, diseases of the genitourinary system occupy 7th place among the causes of death of the population of economically developed countries and account for 2.5-3% of all deaths. Infectious and non-infectious inflammatory diseases occupy a special place in the structure of urological pathologies occurring among the population and are most common among a relatively young segment of the population, that is, people aged 20-40 years.

According to the results of studies conducted in most countries of the world, data on the incidence of urinary tract discomfort in men have clear quantitative indicators (Kupelian V., Taylor B.C., 2006).

The purpose of the study. To assess the pathomorphological changes in inflammatory urological diseases based on immunohistochemical studies.

Materials and methods. To assess the pathomorphological changes in inflammatory urological diseases based on immunohistochemical studies, CD3, CD4, CD20, CD69, Ki67, BcL2 were used to determine the distribution of T and B lymphocytes in the morphofunctionally active areas of the lymph nodes, T-lymphocyte subpopulations and changes in other types of cells.

To block endogenous peroxidase, sections were treated with 3% H2O2 for 15 minutes. To reduce nonspecific binding and limit background staining, preparations were re-treated with Protein Block (X0909, DAKO) for 10 minutes.

Before adding antibodies, the sections were immersed in a special delimiting compound to save reagents and prevent leakage. Incubation with primary antibody was carried out at room temperature for 60-120 minutes. The Universal LSAB2 KIT (DAKO) was used as a visualization system with a minimum exposure of 40 minutes.

The paraffin in the sections was removed by melting with xylene in a thermostat at 57oC, then immunohistochemical markers were used to study the general histological state of the lymph node tissue. In this work, we used CD+3, CD+20 markers.

The CD+3 marker is a coreceptor of the multiprotein complex on the membrane of T-lymphocytes present in the lymph nodes, and by binding to this receptor, it identified T-lymphocytes.

CD+20 is a coreceptor of the protein on the membrane of B-lymphocytes, which binds to the same receptor and stains B-lymphocytes in a golden-yellow-brown color. Thus, the prepared blocks were placed on a specially adhesive slide, and the material was cut through a microtome. Then they were kept in hematoxylin stain for 2 minutes. On a special automated (DACO) device, CD+3, CD+20 were applied to the surface of the slide equipped with special QR-coded stickers. After 20 minutes, they were washed with distilled water. The surfaces of the stained slides were covered with a cover glass.

Results and Discussion. Immunohistochemical aspects of the lymphocytopoietic function of lymph nodes in pyelonephritis. In the study of immunohistochemical characteristics of regional lymph nodes during inflammatory urological diseases in men, CD3, CD8, CD20, CD169, CD68, CD10, BCL-2 and Ki-67 markers were used. Changes in blood vessels and lymphoid structures were analyzed by these markers in the direction of each marker.

We presented the results of assessing the CD20 marker. It is a transmembrane protein on the membrane of B-lymphocytes and binds to their coreceptors. It was used to assess the proliferative activity of B-lymphocytes in positive reactions. High expression of CD20 indicates activation of the MS4A1 gene and, thereby, an increase in the humoral immune response. CD20 expression was detected in the follicles of lymphoid organs, in lymphoproliferative diseases and on the membrane of plasma cells.

The high positive expression of the CD20 marker indicated the dominance of the humoral immune response against bacterial, fungal and other infections. This was confirmed by the increased synthesis of immunoglobulins, the increase in plasma cells in local chronic inflammation. Therefore, CD20 expression was considered an indicator of the pathological process, manifested as an integral response of lymphoid organs in cases of cellular immunodeficiency.

Conclusion

In chronic inflammatory urological diseases, the lack of acute clinical signs in patients, the hyporeactive course of the inflammatory process, reduced the likelihood of patients seeking treatment. This, in turn, creates conditions for an increased risk of chronic inflammation turning into a tumor.