PECULIARITIES OF ASSESSING PATHOMORPHOLOGICAL CHANGES IN INFLAMMATORY UROLOGICAL DISEASES

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The relevance of the problem

In recent years, general terms such as lower urinary tract symptoms and overactive bladder have been adopted by urologists around the world. The emergence of these terms has standardized attention to urological diseases, bringing them to a general consensus on their terminology. Urological diseases have become global in the world and in Uzbekistan. This is due to the deterioration of the climatological and geographical conditions in most parts of the world, including the regions around the Aral Sea.

In the Russian Federation, all types of urological diseases were found in 59.9% of cases, while mild forms of lower urinary tract lesions were detected in 34.2%, moderate forms in 19.9%, and severe forms in 5.8%. At the same time, these diseases, along with being detected in any age group of men, significantly impair the quality of life of patients, and are often associated with erectile dysfunction, metabolic and somatic diseases.

Urolithiasis is the second most common urological disease after urological infectious and inflammatory diseases, and according to WHO data, as of 2010, its prevalence in the USA was 14%, in Russia - 5.7%, in Spain - 5.6%, in Brazil - 5%, in Taiwan - 7.4%, in Turkey - 14.8%, in Arab countries - more than 20%, and this figure is increasing day by day.

The purpose of the study

The purpose of the study is to assess the specific features of pathomorphological changes in inflammatory urological diseases, as well as to assess the morphological parameters of regional lymph nodes in the pelvic cavity.

Materials and methods

The materials submitted to the Republican Center for Pathological Anatomy for pathological examination from medical institutions mainly consisted of deceased males, among whom 57 cases of surgical operations were performed in 2018-2022 and autopsy materials were obtained from persons who died due to chronic pyelonephritis and prostatitis after the operation.

Extracts from medical history documents were obtained for those brought to the center.

The following methods were used in the study: analysis of morphological, morphometric, immunohistochemical and clinical-laboratory data. Hematoxylin-eosin and immunohistochemical methods were used for morphological examination of lymph nodes.

For each case, the information in the pathological examination report, outpatient card, medical history and autopsy conclusions were comprehensively studied. Passport data (address, parents' TIN, age, profession, patient's age, and other necessary information) were obtained from the medical history. Information was collected from the outpatient card about the diseases the patient had suffered from and how they were treated before coming to the hospital.

Results and Discussion

When morphologically examining the regional lymph nodes in the pelvic cavity, the following changes were observed, which include the fact that the outer membrane of the lymph nodes is composed of densely located connective tissue cells and fibrous structures. The appearance of mast cells was observed in its composition, and these cells, namely mast cells, synthesize and secrete biologically active substances, which give the tissues hydrophilic properties and lead to the development of edema. This leads to a number of changes in the area.

The peripheral sinusoid under the outer fibrous membrane was sharply expanded and its cavity was filled with fluid drained from the tissues, inflammatory cells and fragmented tissue fragments. The presence of neutrophilic leukocytes, lymphocytes and macrophages was detected among the cells in the sinusoid cavity.

In some places, macrophages were observed to form interconnected forms with white blood cells.

Due to the tissue fluid that had seeped into the lymph node, it was determined that the lymphoid cells in the lymphoid follicles of the cortical layer, which is the parenchyma of the node, were fragmented and sparse. The activation of reticular cells, macrophages, and individual lymphocytes in the lymphoid follicles was observed, that is, their nuclei became hyperchromatic.

Due to the increased drainage function, atrophy processes were observed in the lymphoid follicles in the cortical layer and in the paracortical area of the lymph node. In this case, the peripheral sinusoid under the outer membrane was sharply expanded, and the sinusoid structures entering the medulla and the sinusoids in the medulla itself were also sharply expanded. The sinusoidal space is filled with tissue fluid, cells and tissue cell fragments.

As a result, the lymphoid follicles atrophy due to a decrease in the volume of all morphofunctional areas, and the germinative area disappears. The paracortical area is located only adjacent to the lymphoid follicles, close to them, and does not cover a large area. The soft bands of the medullary layer are relatively expanded, and an increase in the number of both stromal and lymphoid cells is detected in their composition.

In the initial stage of pyelonephritis, the interstitial space in the tissue, lymphatic vessels, and sinusoids in the regional lymph nodes are expanded and filled with tissue fluid, cells and cell fragments, indicating an increase in the drainage function.

Conclusion

It should be noted that hemosiderin pigments appeared in the foci of hemorrhage in the outer membrane of the lymph node and the soft bands of the medulla, and some lymphoid follicles in the cortical layer were atrophied and reduced, while others were enlarged as a result of swelling and hemorrhage. This creates conditions for the further development of the situation.