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RESPONSE REACTION OF THE SPLEEN IN EXPERIMENTAL RHEUMATOID ARTHRITIS

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A R T I C L E I N F O.

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Abstract

The high sensitivity of the spleen to the effects of factors of various genesis and the ability of one of the first in the body to respond with adaptive changes in cytoarchitectonics and morphological organization have been experimentally proven.Reactive morphofunctional shifts in BP, observed when the body is exposed to damaging factors, allow us to determine the nature and intensity of the adaptive immune response of the spleen to this effect.

Relevence: The role of the spleen in the human body - from the antenatal period, the spleen performs various functions. It is involved in the implementation of the initial period of stress reaction, blood circulation and blood deposition, hemolysis of erythrocytes, neutralization of toxic substances [5, 16, 20], in addition, Iron accumulated in the spleen, then consumed for the synthesis of hemoglobin and blood. It produces iron-containing enzymes, erythropoietin, and hematopoiesis occurs simultaneously during the embryonic period, with the force to form erythromyeloid foci continuing even after birth [12].

The structure and function of the spleen are disrupted in the process of many chronic diseases. Long-term heart failure or circulatory disorders in the liver can lead to stagnation of the spleen and hyperplasia of stromal cells (Pereira et al., 2002).

In chronic immune inflammation, proliferative processes in the white pulp migrate and indicate the maximum level by the 28th-an increase in the relative excitability of the white pulp, cell density in lymph nodes and periarterial compounds, migration of the macrophage reaction, the appearance of plasmoblast and plasmocyte ,as well as the migration of lymphoid apoptosis under severe pathological conditions (hypostatic pneumonia against the background of chronic heart failure), the relative volume of the white pulp decreases with Cell density also decreases, but the structural rows of cells change slightly [7].

In the implementation of splenectomies, further selected practical recommendations can be followed when studying the components of the spleen together with age in humans and animals, as well as a detailed study of the results of experimental modeling and information about morphofunctional properties, and when studying possible methods of organ repair and preservation. One way to restore spleen functions is by heterotopic transplantation of a fragment from the colon or small intestine handle, since these parts of the gastrointestinal tract are well-drained enough, which contributes to the effective germination of blood vessels into the spleen tissue [3]. During Antigen stimulation, the number of cells

initially increases sharply (on the 2nd day after antigen administration), then gradually decreases and becomes larger on the 30th [29]. The spleen provides active and very long-term excellent with various immunologically competent cells that pass through the spine [4].

The spleen plays an important role in the formation of immune defenses against tumors. The introduction of 1,2-dimethylhydrazine into the body leads to significant morphological and immunogystochemical changes in the white pulp of the spleen. The amount of small diameter lymphatic nodules increases compared to other nodules of different diameters. The diameter of the lymphatic nodules and their reproductive centers decreases. 4 months after the end of carcinogenic uptake, more clearly expressed hypoplasia of lymphoid nodules is recorded compared to the previous period. Lymphatic nodules have a significant reduction in the diameter of the Centers of reproduction and the width of the border area. Palm decreases in diameter, the number of V - and T - lymphocytes decreases [Merkulova L.M. and hammual. 2016].

In chronic immune inflammation, proliferative processes occur in the white pulp of the spleen. The volume of white pulp, the density of cell elements in lymphatic nodules and periarterial lymphatic mucosa increases. Apoptosis and macrophagal reaction increase in spleen lymphoid structures [Klimenko N.A. and hammual. 2009]. In particular rheumatoid arthritis, the radical absorption of morphometric and morphological indicators in the spleen is reflected in several studies.

Rheumatoid arthritis (ra) is the central problem of modern Rheumatology.Its noticeable and widespread distribution is, first of all, the defeat of people of any age. Including the most able-bodied, the severity of the disease varies in people with stable development and very frequent disability. In addition, this disease is the focus of the main theoretical problems of medicine, such as immunity and autoimmune pathology, acute and chronic inflammation, Immunogenetics, sexual dimorphism, etc. Therefore, it is not for nothing that advances in research and especially in the treatment of ra patients have a significant impact on the development of not only rheumatology, but medicine as a whole. The prevalence of the disease is very high and averages 0.7% among the entire population. In recent decades, the annual incidence has remained very high, at 0.02%.

In squamous chronic arthritis of rats, the disease can passively infect a healthy animal from a patient by injecting lymphocytes. Removal of lymphocytes from the chest canal of a rat with auxiliary arthritis stops the further development of the disease. The chronic arthritis model (suspension of killed Mycobacterium tuberculosis in mineral wax) that appears in chickens using freyenda's adjuvant directly shows the large role of cellular immune responses to humoral responses. It turns out that after removing the Fabrisius bag from newborn chickens, which is responsible for humoral immunity in birds, arthritis occurs without any difficulty. At the same time, the removal of the thymus gland in newborn chickens, which determines cellular immune reactions, makes the development of arthritis impossible. Cellular immune reactions play a special role in pathogenesis. Auxiliary arthritis can be passively triggered in a healthy rat that has not been immunized by infecting live lymphocytes from the chest canal, spleen, or lymph nodes of a sick animal. Removal of lymphocytes from the thoracic duct, as well as administration of anti-lymphocytic globulin, has been found to cause a decrease in the inflammatory process in the joints. In addition, if regional lymph nodes (relative to the injection site) are removed within the first 5 days after administration of the Freund adjuvant, a condition of arthritis failure has been identified. [Dudar M. M.-2014].

The purpose of the study: To study the morphological and morphometric parameters of the spleen of white rats in experimental rheumatoid arthritis and post-pathogenetic treatment.

Materials and methods: To simulate rheumatoid arthritis, a complete Freund adjuvant is used in 120 white randomized rats aged 18 to 24 months in the inpatient vivarium of the Bukhara State Medical Institute. Rheumatoid arthritis is caused by the action of the "full Freund adjuvant" in a dose of 0.1 ml of the base of the tail subcutaneously, 1 time Experimental studies will be conducted in 3 stages: the

first stage is the study of the morphology of the spleen in normal white mongrel rats with the slaughter of animals under anesthesia. The second stage is the study of the morphology of the spleen in experimental animals with simulated rheumatoid arthritis under inhalation anesthesia. The third stage is to study the structural organization and cellular composition of the spleen components after exposure to NSAIDs (Meloxicam 0.1 mg peros 1 time per day for 14 days), followed by slaughtering animals under inhalation anesthesia. Morphological studies will be carried out with the fixation of the results obtained in journals, statistical processing of the results obtained and their description in the form of a report of the conducted studies.

Results: expressed in obtaining a two-step model of rheumatoid arthritis: first, intradermal injection of a full AF with a lower limit dose; second, the effect of immobilization stress from 14 to 28 days.

The technical result is achieved by the introduction of an intradermal dose of the lower limit of the full AF, and then the stress of immobilization on the animal's body is affected.

The proposed method allows you to study the conditions and mechanisms of the transition of the disease to the disease; it allows you to study the various non-specific pathogenic factors that cause polyarthritis, the nature and conditions of their pathogenic effect on the body with very reliable reproducibility.

The recommended method is carried out as follows. White laboratory male rats with an average weight of 145 g are injected with 0.07-0.08 ml of complete auxiliary Freund (the full AF content is an inactivated vaccine of BSJ (2 mg/ml (1 teaspoon lanolin and 30 tea Vaseline) in the fat environment)) intradermally into the pads of the hind legs. Over the next 14 days, animals record the main indicators of the dynamics of the state of animals once a week: the diameter of the circumference of the ankle joints, rectal and local temperature, ECHT, the number of leukocytes in peripheral blood. On the 14th to 28th days after the introduction of full AF, rats are subjected to Daily immobilization stress. Stress was increased by fixing rats in the car for 1 hour. On the 28th, the animals are capitalized. On the 14th-28th day after the introduction of full AF, daily, for 1 hour, the use of immobilization stress leads to a direct increase in the incidence of the disease with a pronounced manifestation of polyarthritis.

The high sensitivity of the spleen to the effects of factors of various genesis and the ability of one of the first in the body to respond with adaptive changes in cytoarchitectonics and morphological organization have been experimentally proven (Bokov D. A. et al., 2014). Reactive morphofunctional shifts in BP, observed when the body is exposed to damaging factors, allow us to determine the nature and intensity of the adaptive immune response of the spleen to this effect. Morphometric research methods that meet modern requirements of evidence-based medicine allow to objectively assess changes in the structural and functional state of PD

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