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MORPHOLOGICAL CHANGES OF THE SPLEEN IN EXPERIMENTAL RHEUMATOID ARTHRITIS WITH THE HELP OF ADJUVANT FREYEND

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Abstract: *in the world, a number of scientific and research is being carried out aimed at assessing the changes in morphological and morphometric indicators of the spleen under the influence of rheumatoid arthritis disease and auxiliary Freund induced arthritis. In this regard, it is required to substantiate age-related normative, rheumatoid arthritis and morphological and morphometric indicators of the spleen of white-breed rats in postnatal ontogenesis, to compare morphometric indicators of spleen lymphoid structures in rheumatoid arthritis with indicators of healthy laboratory animals, to study morphological and morphometric changes that occur in their spleen when administering rheumatoid in arthritis.*

Key words: *adjuvant Freyend, rheumatoid arthritis, spleen, white pulp, red pulp, PALM.*

МОРФОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ СЕЛЕЗЕНКИ ПРИ ЭКСПЕРИМЕНТАЛЬНОМ РЕВМАТОИДНОМ АРТРИТЕ С ПОМОЩЬЮ АДЪЮВАНТА ФРЕЙЕНДА

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Резюме*: в мире проводится ряд научных исследований, направленных на оценку изменений морфологических и морфометрических показателей селезенки под влиянием заболевания ревматоидным артритом и вспомогательного артрита, индуцированного Фрейндом. В связи с этим требуется обосновать возрастные нормативы, ревматоидный артрит и морфологические и морфометрические показатели селезенки крыс белой породы в постнатальном онтогенезе, сравнить морфометрические показатели лимфоидных структур селезенки при ревматоидном артрите с показателями здоровых лабораторных животных, изучить морфологические и морфометрические изменения, происходящие при ревматоидном артрите. их селезенку при лечении ревматоидного артрита.*

Ключевые слова: *адъювант Фрейенда, ревматоидный артрит, селезенка, белая пульпа, красная пульпа, ПАЛВ*

ЁРДАМЧИ ФРЕЙЕНД ЁРДАМИДА ЭКСПЕРИМЕНТАЛ РЕВМАТОИД АРТРИТДА ТАЛОҚНИНГ МОРФОЛОГИК ЎЗГАРИШЛАРИ

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Резюме: *дунёда ревматоид артрит касаллиги ва ёрдамчи Фрейенд индукцияланган артрит таъсирида талоқнинг морфологик ва морфометрик кўрсаткичларидаги ўзгаришларни баҳолашга қаратилган бир қатор илмий ва тадқиқотлар олиб борилмоқда. Шу муносабат билан поснатал онтогенезда ёшга боғлиқ меъёрий, ревматоид артрит ва оқ зотли каламушларнинг талоғининг морфологик ва морфометрик кўрсаткичларини асослаш, ревматоид артритдаги талоқ лимфоид тузилмаларининг морфометрик кўрсаткичларини соғлом лаборатория*

ҳайвонлари кўрсаткичлари билан таққослаш, болаларда учрайдиган морфологик ва морфометрик ўзгаришларни ўрганиш талаб этилад.

Калит сўзлар: *ёрдамчи Фрейенд, ревматоид артрит, талоқ, оқ пулпа, қизил пулпа, ПАЛМ.*

Research relevance: the immune system is one of the most complex autonomous regulatory systems of the body, therefore, violation of its functionality leads to serious complications of an autoimmune and infectious nature. “In this regard, in recent years, the issues of maintaining homeostasis in the immune system have become especially relevant.”

The protection of a living organism cannot be imagined without an immune system. In humans and animals, the immune system provides the body's flexibility and protection against the effects of various pathogenic factors. In recent years, there has been an increase in diseases associated with damage to the immune system in the world,"...currently, the degree of the body's immune reactivity undoubtedly determines the course and consequences of most diseases. The state of health of modern society is characterized by a decrease in immune reactivity, as a result, an increase in acute and chronic diseases...".

The effectiveness of the body's protective reactions against the action of exogenous factors often depends on the morphofunctional state of the peripheral organs of immunogenesis, in particular the spleen [Kochmar M.Yu. hammual. 2010; Cesta M. F., 2006; Melanie S. et al. 2008].

The spleen plays a central role in protecting against circulating pathogens. The absence of spleen has fatal consequences with the spread of infections by viruses, bacteria and fungi (Hansen and Singer, 2001). Changes in the structure of the spleen are common in many systemic infections caused by viruses, bacteria and parasites (Andrade et al., 1990; Kyav et al., 2006).

Some of these infections develop with lymphoid or stromal hyperplasia of the spleen, sometimes accompanied by lymphoid atrophy and desorganization of the spleen.

In the world, a number of scientific studies are being carried out aimed at assessing the changes in morphological and morphometric indicators of the spleen under the influence of rheumatoid arthritis disease and auxiliary Freund induced arthritis. In this regard, it is required to substantiate age-related normative, rheumatoid arthritis and morphological and morphometric indicators of the spleen of white-breed rats in postnatal ontogenesis, to compare morphometric indicators of spleen lymphoid structures in rheumatoid arthritis with indicators of healthy laboratory animals, to study morphological and morphometric changes that occur in their spleen when administering rheumatoid in arthritis. Of particular importance is the comparison of morphological and morphometric changes in the structure of the free white rat spleen, when normative, rheu-

matoid arthritis disease and changes in the organometric indicators of the spleen under the influence of the adductor Freyend, when applying rheumatoid arthritis disease and arthritis under the influence of the auxiliary Freyend in various variants.

“The high sensitivity of the spleen to the influence of various genetic factors using a blanket and the ability to respond with adaptive changes in cytoarchitectonics and morphological structure, one of the first in the body, has been experimentally proven... " (Bokov D.A. et al., 2014).

Experimental adyuvant-induced arthritis (AIA) is one of the earliest experimental models and is used to test medications designed for rheumatoid arthritis. The study is carried out in rats for 30 days. The similarity of AIA with human RA is due to swelling of the limbs, degradation of the lower limbs, lymphocytic infiltration of inflamed tissues of the joints, loss of their function, in addition, there is resorption of the bone and periosteum; however, toga injury occurs to a lesser extent than people with collagen-induced arthritis rats and RA. The difference between this model and RA is that animals with AIA also have injuries to the spine, gastrointestinal tract, urinary tract, skin, and eyes, similar to human spondyloarthropathy. The AIA model is T-cell dependent and not complement dependent. An increase in TNF, interferon C (INFc) and type IL1, IL6 and IL17A interleukins was found in the lymph nodes and inflamed joints of AIA rats. Blockade of TNF, IL1, IL21, and IL17A in AIA rats improves disease progression, indicating the role of these cytokines in experimental arthritis pathogenesis. AIA induction is performed by intradermal or subcutaneous administration of A Complete Adjuvant Freyend (TAF) containing fat suspension killed mycobacteria.

The purpose of the study. Study of morphological, morphometric and immunogystochemical indicators of the White Rat spleen in the treatment of experimental rheumatoid arthritis and postpatogenetics.

Materials and methods: for the modeling of rheumatoid arthritis, a full-fledged Freund assistant was used in 100 white randomized rats aged 18 to 24 months under the stationary conditions of the vivarium of the Bukhara State Medical Institute.The subject of the study was served by histological materials from the spleen of white rats under the experiment and its upper, middle and lower parts. The study used experimental, histological, morphological, morphometric, as well as immunogystochemical techniques.

Results: age-related morphological and morphometric changes are justified in postnatal ontogenesis in the White Rat spleen after rheumatoid arthritis and under the influence of the adyuvant Freyend**.** The study of structural changes in postnatal ontogenesis of the White Rat spleen in rheumatoid arthritis disease and under the influence of Freyend's blanket is based on the possibility of determining the most dangerous age periods;

The data obtained in the study is based on the fact that it is important to identify the development of immunopathological processes that occur under the influence of

rheumatoid arthritis in the early stages, to prevent it and to develop effective treatments.

The white pulp of the spleen was Palm diameter from 108.4 μm to 117.3 μm, averaging - 112.98±1.17 μm. Lymphatic nodules ranged in diameter from 248.7 μm to 334.6 μm gcha, averaging - 281.28±9.28 μm. The growth rate of Palms and LTS is 11.8% and 20.0% respectively compared to newborn white bats. The prosent ratio of primary and secondary LTS is 44% and 56% respectively. Breeding centres ranged in diameter from 82.1 μm to 112.4 μm, with an average of - 97.88±3.27 μm. LTS have a circular, oval, oblong (82.3%) and irregular (17.7%) shape.

LTS had a mantle area width of 36.4 μm to 46.7 μm, averaging -40.46±1.0 μm. The boundary area is 60.4 μm to 71.2 μm wide with an average of -65.5±1.16 μm. The width of the Periarterial area ranged from 62.3 μm to 73.6 μm, with an average of - 67.49±1.22 μm. The growth rate of the width of the mantle, border and periarterial areas compared to newborn white bats, respectively - 14.7%, 3.4% - 52.8%.The study found that the total number of lymphocytes in LTS without a breeding center was 33-43 with an average of 37.3±1.08 cells. The total number of lymphocytes in the spleen white pulp Palm was 34-45, on average - 39.5±1.18 cells.

The practical significance of the study is the development of the procedure for measures to prevent age-related changes in the lymphoid structures of the spleen in rheumatoid arthritis, improving the quality of effective methods of treatment during illness and when complications are observed, early diagnosis of immunopathological conditions observed under the influence of rheumatoid arthritis, assessment of the effectiveness of, it is explained by the fact that it can be used in lectures and practical classes in the disciplines of pathological physiology.

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