

Experimental Rheumatoid Arthritis Kidney Morphological in the Administration Changes

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Abstract World health storage organization to the information according to, 2019 to the state according to the world 18 million people across rheumatoid from arthritis suffering Smoker. Rheumatoid arthritis with sick of patients about 70 percent women, 55 percent and over 55 years old increased are people. Ten three million people rheumatoid arthritis weight level (average) or heavy (due to) rehabilitation to do for medical to the instruction has was [WHO, 2024].

Keywords Rheumatoid arthritis, Autoimmune disease, Morphological changes, Adrenal glands, Kidneys, Inflammation, Histology

1. Introduction

Rheumatoid arthritis is body various to systems impact doer systematic autoimmune disease, but often hands, wrists, feet, ankles, knees, shoulders and elbows to the joints impact Rheumatoid arthritis (RA) chronic disease is, it is in the body inflammation brought releases and usually in the joints pain as manifestation will be [1].

If left untreated, RA can damage the joints. and his/her around to the tissues serious damage to deliver possible. Disease heart, lungs or nerve system with related to problems take arrival possible. RA 's general signs chronic pain, stiffness, tenderness, heat and swollen joints own inside RA moves. and daily work to do make it difficult possible [2].

Rheumatoid arthritis reasons not specified. Danger factors between smoking, obesity and air pollution impact to do Women and old RA development in human's danger high [3].

Of the disease beginning usually sixty from age then happened will be. Women rheumatoid from arthritis to men than two or three even often suffering They smoke. Rheumatoid arthritis spread industry developed in countries high is, this their demographic indicators (average of age high), exogenous toxins impact and marriage style danger factors, low and middle profitable in countries disease diagnosis not being placed with interpretation possible [4].

Global epidemiology of RA, "Global Concern for Diseases" According to, RA in the US the highest young standardized prevalence (0.38 %, CI95 = 0.36-0.40), from

which then Western Europe (0.35%, CI95 =0.31-0.38) about message gave. So, RA man health to the sciences big interest in reporting continue is doing, because his/her social to life impact especially anxious to be possible. In the RA immunological changes understanding noticeable at the level developed, this disease pathogenesis participation enough immunity cells and inflammation intermediaries complicated mutual the impact illuminating gave. Immunity RA 's disorder beginning and in storage main role plays, this weakening of the situation under lying down immunological changes determination very important is considered. In RA immunity system own tissues, especially joints covering synovial to the curtain wrong attack This will do. autoimmune answer congenital and adaptive immunity cells own inside received reactions cascade brought releases and as a result joint to destruction take comes [6].

Rheumatoid factor (RF) and anti -citrullinated protein antibodies (ACPA). various kind autoantibodies determination and Description RA diagnosis and in the forecast revolution. This autoantibodies not only valuable biomarkers become service does, maybe immune complexes in formation and synovial of tissues infiltration participation to grow through of the disease to develop active help gives. From this in addition, T cells dysregulation of RA pathogenesis important aspect as appearance it has been. In the RA observed chronic inflammatory Th1, Th2 and Th17 cells such as CD4+ T helper (Th) cells of the collection imbalance, as well as the misregulation of T cells (Tregs) order eater from activity come comes out [5].

2. Material and Method

For the purpose of experimental studies, 120 male white outbred rats, weighing 370-390 g, aged 18-24 months, were

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selected. All laboratory animals were obtained from a single vivarium and were performed on white outbred rats aged 18-24 months. These adult (18-24 months) white outbred rats were kept in standard vivarium conditions with relative humidity (50-60%), temperature (19-22 °C) and light regime (12 hours of darkness and 12 hours of light) (Figure 1, Figure 2).



Figure 1. 18 months old white inbred rat kidney above gland appearance

Rheumatoid arthritis has been induced in the laboratory with Freund's adjuvant. Adjuvant Freund Each 10 ml ampoule contains 1.5 ml of mannitol monooleate, 8.5 ml of paraffin oil and 10 mg of inactivated dried Mycobacterium tuberculosis. This product is for research purposes only. All experimental white rats were decapitated on an empty stomach in the morning at the end of the experiment and weighed.



Figure 2. 18 months old white inbred rat kidney appearance

Adrenal gland The organ was dissected, divided into two parts, fixed in a 10% neutral solution of formalin, fixed for 72 hours, then washed in running water for 2 hours, dehydrated in increasing concentrations of alcohol, and paraffin-embedded sections were prepared. Sections 5-8 μ m thick were prepared from them, and the general histological structure was studied by staining with hematoxylin -garris stain. The drug is administered for 30 minutes. during water with wash we threw (2-3 days possible). Macropreparations 3% vinegar acid 18 hours to solution placed during (2-5 days). Solution clear until then they 2 more hours during

flowing water with washed. From washing then they are 1% Harris hematoxylin solution (99 ml of water 1 ml for Garris hematoxylin) was placed and 48 hours during painted.

White 30 minutes in water after washing after they vinegar 2 hours in a 2% solution of acid during placed. Oqar in the water another 30 minutes after washing after muscle and serous curtains separated, drug past in the light seeing We are Harris. according to hematoxylin as follows we prepared: 1 g hematoxylin 10 cm³ absolute in alcohol dissolved. 20 g potassium 200 cm³ of distilled alum in the water melted. 24 hours then both solution merged and 0.5 g red mercury oxide added. Bring to a boil. heated, cooled and 24 hours then filtered.

3. Result and Discussion

The cores and other basophil structures blue or blue-violet, cytoplasm and other eosinophil structures pink.

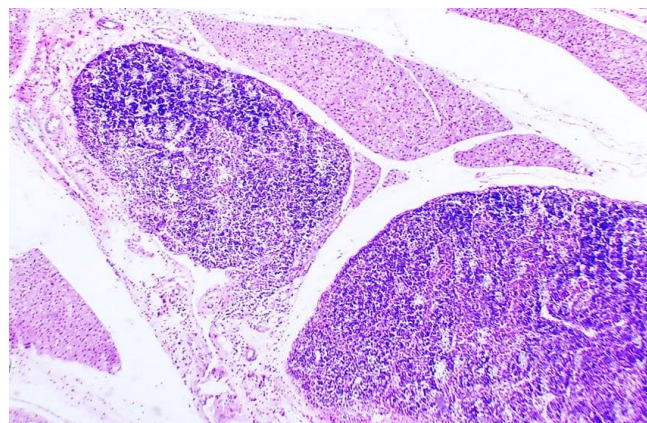


Figure 3. Experimental rheumatoid arthritis 24 months old white inbred rat kidney above gland microscopic appearance. Paint hematoxylin harris 10x20

Histological analysis revealed that in rats with induced RA, the adrenal glands exhibited noticeable morphological changes. These included alterations in nuclear shape and positioning, as well as cytoplasmic color and density. Basophilic structures appeared blue to blue-violet, while eosinophilic components were pink (Figure 3).

4. Conclusions

Transferred research results this shows that experimental rheumatoid arthritis called in rat's kidney above in the gland noticeable morphological changes to the surface These changes are coming. mainly inflammation processes and immune of the system activation with related endocrine also check the functions Microscopic inspections as a result kidney above gland in the structure of the nuclei shape and location, cytoplasm color and in density noticeable differences This was determined. morphological changes rheumatoid arthritis only joints with not limited to, but other important organs, including endocrine negative for the system impact

to show confirms. Research rheumatoid arthritis systematic feature deeper understanding and complex approach based on treatment strategies working on the way out important importance has.

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