Procedia of Social Sciences and Humanities
Proceedings of the International Conference on Innovation, Integration and Modern Education (ICIIIME 2022)

Morphological Changes of the Spleen with Polypragmasia

Akmal Abdullaevich Saidov
Bukhara Medical Institute named after Abu Ali ibn Sino, Assistant of the Department of Pathological Anatomy and Forensic Medicine Uzbekistan

Annotation: The study was conducted on 100 white random-bred rats of newborns, three and six months old. Animals were taken out of the experiment at 3 months of age by instantaneous decapitation of animals under ether anesthesia. After opening the abdominal cavity, macroscopic changes in the spleen were studied. Using a caliper, the anatomical parameters of the extracted spleen were measured. The spleen was fixed in Carnoy's solution for further study. Treatment with no steroidal drugs showed damage to the lymphoid tissue of the spleen, structural changes in the pulp and a decrease in the mass of the spleen.

Keyword: spleen, non-steroidal therapy, lymph node polypharmacy.

Materials and methods. The object of the study was the study of the spleen of 50 out bred male rats, divided into 3 groups:

In order to make the results of the morphological study more accurate and reliable, the animals of group I were injected with 0.5 ml of distilled water, and the animals of the experimental group were administered anti-inflammatory drugs enter ally through a tube into the stomach for 10 days, at the rate of Plaque nil 2.5 mg/day. Kg, paracetamol 15 mg/kg, aspirin 5 mg/kg, dexamethasone 0.1 mg/kg. All laboratory animals were divided into groups: group I - control animals (10 rats) receiving distilled water through a probe, group II (20 rats) - laboratory animals that received 3 types of anti-inflammatory drugs (plaque nil, dexamethasone, paracetamol); Group III (10 rats) - laboratory animals that received 4 types of anti-inflammatory drugs (plaque nil, dexamethasone, paracetamol, aspirin). The material was taken on day 11, after 10 days of drug administration. For histological study, Carnoy's fluids were fixed from different parts of the spleen. Paraffin blocks were prepared and stained with hematoxylin-eosin.

Results and discussion. The results of microscopic studies showed that in rats of the first group, the spleen has a single histotopographic structure, but their thickness and length are different. In newborn white rat pups, the spleen is functionally immature. At three and six months of age, the spleen has the maximum potential for immunogenesis. Therefore, the experiments were carried out precisely from the age of three months. After the administration of the drug, the spleen structures were studied with an ocular micrometer, germinal centers of lymph nodes, diameter, thickness and length. Morphometric studies were performed with Aftandilov's grid. The number of cells was counted per 100 points. When the lymphoid follicle of the spleen was exposed to various doses of NSAIDs for a long time, the following morphological and morphometric changes were observed in the lymphoid structures of the spleen of rats. 4.69%), and the thickness is up to 1.34±0.07 μm (by 21.65%); at the same time, the volume of the organ decreased to 39.07±5.3 μm3, and its weight decreased by 15%. The ratio of the areas of white and red pulp on the cut changed somewhat: the proportion of red pulp decreased to 62.58 ± 6.38, the proportion of white pulp, on the contrary, increased and amounted to 33.72 ± 5.42 mmk. The calculation of the morphometric indicators of the relative percentage of the organization of the structure of the cells of the lymphoid follicles of the spleen in rats up to a year showed significant differences depending on the months lived, and the dynamics of macroscopic changes in the spleen of rats in early and late postnatal ontogenesis was also analyzed.

The highest growth rate is observed from the moment of birth to the 90th day. In the postnatal period of ontogenesis, the highest growth rate of the spleen mass coefficient - 84.3% was observed at 36 days of age. The highest growth rate of the spleen area is 47.4% at the age of 3 months.

The shape of the spleen of the control group of rats in early postnatal ontogenesis, namely at the newborn age, was oval-round in 80% and elongated-oval in 20% of cases. Up to 16 days of age, the elongated oval shape is also preserved in 50%. In late postnatal ontogenesis, namely by the age of 6 months, the shape of the spleen becomes elongated-triangular in 70% of cases and crescent-shaped in 30% of cases - by 9 months of age.

A morphological study of the spleen tissue showed that the development of various pathomorphological changes in the spleen was also observed as a result of long-term use of NSAIDs.

ISSN 2722-0672 (online), https://pssh.umsida.ac.id. Published by Universitas Muhammadiyah Sidoarjo

CONCLUSION

Thus, based on the results of the study, it was concluded that the immune defense of the body decreases with prolonged administration of non-steroidal anti-inflammatory drugs in animals. It was clearly visible how in the white pulp there were microscopic changes in the lymphoid nodes of the spleen, a decrease in the germinal area and the number of cells.

It has been established that the greatest decrease in the relative area of the white pulp of the spleen and its structural units in the mantle and marginal zone of the spleen is due to the long-term simultaneous use of non-steroidal anti-inflammatory drugs.

LIST OF REFERENCES

1. Ageev A.K. T and B-lymphocytes: distribution in the body, functional and morphological characteristics and significance//Arkh.pat.-1976.-No. 12.-C3_11.
2. Age dynamics of the distribution of B-containing cells in the peripheral immune organs of rats under chronic stress / M.Yu. Kapitonova [et al.] // Vestnik VolGMU. 2006. No. 3(19). pp. 28–32.
3. Dynamics of structural changes in the spleen of rats in postnatal ontogenesis under conditions of toxic effects on the mother's body / F.Kh. Azizova [et al.] // Morphology. 2008, vol. 133, no. 2, pp. 7–8.
4. Zhuraeva G.B., Rakhimova M.R. Diagnostic algorithms for morphological signs of the thymus in the development of various diseases in preterm infants//Actual issues of forensic medical examination. View of young scientists. Perm.2016 pp. 31-34
5. Zhuraeva G.B., Saidov A.A. Dependence of morphological and morphometric changes in the mucosa in acute intestinal infection on the type of pathogen // Youth innovation bulletin. Voronezh. 2015. S. - 193-196
6. Ivanova E. A. Modern ideas about the impact of psycho-emotional stress on the organs of the immune system (on the example of the digestive system of rats) / E.A. Ivanova // Academic Journal of Western Siberia. 2014. V. 10, No. 2(51). S. 117.
7. Moldavskaya A.A. Morphological criteria for the structure of the spleen in postnatal ontogenesis / A.A. Moldavskaya, A.V. Dolin // Successes of modern natural sciences. 2009. No. 2. P. 15–18.
8. Padgett D. A. How stress influences the immune response / D.A. Padgett, R. Glaser // Trends Immunol. 2003, Vol. 24, № 8, P. 444–448.
9. 8.Palermo-Neto J. Effects of physical and psychological stressors on behavior, macrophage activity and Ehrlich tumor growth / J. Palermo-Neto, C.O. Massoco, W.R. de Souza // Brain Behav. Immun. 2003. Vol. 17. P. 43–54.
10. Saidov Akmal Abdulloyevich. Changes in the morphometric state of the lymphoid tissue of the spleen / Innovative Technologica: Methodical Research Journal // Vol. 3 No. 1 (2022) P.157-165
11. Saidov Akmal Abdulloyevich . To establish the morphofunctional features of changes in the cellular composition of the lymphoid tissue of the spleen / Research Jet Journal of Analysis and inventions // Volume 3, Issue 1 Jan., 2022 P.104-111

ISSN 2722-0672 (online), https://pssh.umsida.ac.id. Published by Universitas Muhammadiyah Sidoarjo