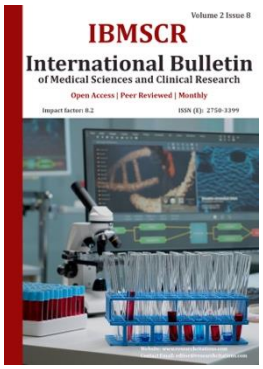

MORPHO-FUNCTIONAL CHANGES IN THE HEART UNDER THE INFLUENCE OF CHRONIC RADIATION, AS WELL AS MODERN RESEARCH METHODS

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Annotation. This article is devoted to the incidence of cancer, as well as the specific clinic of chronic radiation for the purpose of their treatment, Morpho-functional changes in the heart caused by chronic radiation, as well as modern research methods.

Key words: medicine, morphology, oncology, cardiologists, radioprotective agents, radionuclides, chloroform.

Researchers-scientists of the leading scientific centers of the world today have published the results of research work on the maximum doses of radiation exposure to the body, the duration of their production of reversible and irreversible pathological processes in the body, the degree of impact of chronic radiation on the system and organs of the body, the production and use of radioprotective agents. It also leads to heart failure in the body as a result of chronic irradiation. Circulatory disorders are observed based on many clinical syndromes, closely related to pathogenetically different effects monosubates.

Heart failure is primarily a pathological condition that cannot provide normal blood circulation in tissues and organs. Chronic radiation causes excessive heart failure. The development of this heart failure is a long-term overwork of the myocardium, which is caused by the release of blood from the heart into large vessels (overwork) or an excessive increase in blood flow to the heart [5,9,10,12].

External ionizing radiation is carried out only during the period of its impact on the body, under the influence of which various radioactive substations appear in the body. Until a certain time, the affected organism becomes a carrier of these radionuclides, as a result of which internal radiation develops. Radioactive substations can enter the body through the skin, gastrointestinal tract, respiratory tract. After that, they become a source of internal radiation and spread through the flow of blood and lymph to other organs and tissues of the body, as well as to the heart [2,4,7,12].

Morphological changes formed as a result of the influence of chronic radiation on the internal organs of the body have also been studied, the results of experimental studies on the effects of biological preparations have been published. However, morphological changes that occur in the heart under the influence of chronic radiation, a new treatment for them with antioxidants-the degree of preventive effect has not been studied, the degree of influence of biological preparations on the level of morphological changes has not been shown [2,8,13].

Chronic radiation-depends on the frequency and duration of ionizing radiation and develops to varying degrees depending on the radiation sensitivity of the members. In chronic radiation, the most sensitive organs are the organs of the immune system (thymus, bone

burial, spleen, lymph nodes), the mucous membranes of the gastrointestinal tract, EXO-and endocrine glands (pituitary, thyroid, adrenal gland), sex glands (ovary, germ, prostate gland). The purpose of this chapter of the dissertation was to describe the dynamics of morphological changes in the heart of laboratory animals in the case of biocorrection and non-biocorrection in chronic radiation.

We found that it is permissible to cite all 4 stages of the preparation of histological preparations performed during the study:

The first stage is the acquisition of biological objects. Anesthesia was used to kill laboratory animals. Then the animal was quickly opened, the necessary organ and tissues were obtained, from which small pieces (5-10 mm3) were cut with a chronic tool and placed in a fixer. The size of the fixer turned out to be 20-40 times more than the size of the specified object. Fixation prevents the development of post-mortem changes in tissues, suppresses biochemical processes in them. The effect of any fixator is based on complex physicochemical processes, primarily protein coagulation. We have a complex reaction that includes one (formalin, alcohol, acetone) and two or more components (Carnoy liquid - absolute alcohol, chloroform, ice acetic acid; Zenker liquid - mercury chloride, potassium dichromate, sodium sulfate, formalin, distilled water.

The second stage is the washing, dehydration and filling of biological objects. To obtain thin slices, fixed biological objects were prepared accordingly: to make it dense enough, after fixation, the pieces were washed under running water for 12-24 hours to get rid of excess fixator. This stage was skipped for the pieces located in the Carnoy fluid. After washing, they were loosened and compacted with intensifying alcohols, for which they were successively 50°, 60°, 70°, 90°, 96° and 100° alcohols were used. Then the pieces were clarified, for which the absolute alcohol (100°) and O-xylol were first mixed in a 1:1 ratio, placed in the same mixture, and then in 2/3 of the Pure O-xylol. After cleaning, it was dissolved in a thermostat (a mixture of equal parts of O-xylol and paraffin) at a temperature of 37°C, then 2/3 of pure paraffin, at 56°C. Paraffin-soaked parts were glued to wooden blocks. Biological objects prepared in this way.

The third stage is the preparation of histological blocks. Microtome was used to prepare the blocks. The resulting paraffin pieces were glued to the glass of an item smeared with a mixture of protein and glycerin (in a 1:1 ratio) and dried in a thermostat at 37°C, thus being prepared for the next step.

The fourth stage is painting and cutting. Under the trinocular microscope, a Chinese-made, software-enabled HL-19 model designed for block staining and biological micro-object monitoring, the member structure was clearly observed and based on the unequal chemical composition of tissue structures. Traditional dyes were used to make a large number of histological preparations for dyeing.

References:

1. 1. Лучевая болезнь / Гуськова А. К., Краевский Н. А., Лебедев Б. И., Гембицкий Е. В., Голодец Р. Г. // Большая медицинская энциклопедия : в 30 т. / гл. ред. Б. В. Петровский. — 3-е изд. —М. : Советская энциклопедия, 1980. — Т. 13 : Ленин и здравоохранение — Мединал. — С. 297-304. — 552 с. : ил.

2. Лучевая болезнь / Синицын В. Е., Лысенко Н. П. // Ломоносов — Манизер. — М. : Большая российская энциклопедия, 2011. — С. 165-166. — (Большая российская энциклопедия : [в 35 т.] / гл. ред. Ю. С. Осипов ; 2004—2017, т. 18). ISBN 978-5-85270-351-4.
3. Sharipova Gulnihol Idiyevna. DISCUSSION OF RESULTS OF PERSONAL STUDIES IN THE USE OFMIL THERAPY IN THE TREATMENT OF TRAUMA TO THE ORAL MUCOSA// European Journal of Molecular medicinevolume 2, No.2, March 2022 Published by ejournals PVT LTDDOI prefix: 10.52325Issued Bimonthly Requirements for the authors.
4. Sharipova Gulnihol Idiyevna. THE EFFECTIVENESS OF THE USE OF MAGNETIC-INFRARED-LASER THERAPY IN TRAUMATIC INJURIES OF ORAL TISSUES IN PRESCHOOL CHILDREN//Academic leadership. ISSN 1533-7812 Vol:21Issue 1
5. Karshiyeva D.R.,The Importance of Water Quality and Quantity in Strengthening the Health and Living Conditions of the Population//CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES. Voleme: 02 Issue: 05I Oct 28 2021 Page 399-402\
6. Karshiyeva D.R.,The Role Of Human Healthy And Safe Lifestyle In The Period Of Global Pandemic-Covid 19//The American Journal of Applied Sciences.Voleme: 02 Issue: 11-15I November 28, 2020 ISSN: 2689-0992. Page 78-81
7. Sharipova G. I. The use of flavonoid based medications in the treatment of inflammatory diseases in oral mucus //Asian journal of Pharmaceutical and biological research. India. 2022. T. 11. – №. 1. – С. 2231-2218. (Impact factor: 4.465)
8. Sharipova G. I.Changes in the content of trace elements in the saliva of patients in the treatment of patients with traumatic stomatitis with flavonoid-based drugs // Journal of research in health science. Iran. – 2022. – Т. 6. – № 1-2. – С. 23-26. (Scopus)
9. Sharipova G. I. Paediatric Lazer Dentistry //International Journal of Culture and Modernity. Spain. – 2022. – Т. 12. – С. 33-37.
10. Sharipova G. I. The effectiveness of the use of magnetic-infrared-laser therapy in traumatic injuries of oral tissues in preschool children //Journal of Academic Leadership. India. – 2022. – Т. 21. – №. 1.
11. Sharipova G. I. Discussion of results of personal studies in the use of mil therapy in the treatment of trauma to the oral mucosa //European journal of molecular medicine. Germany. – 2022. – Т. 2. – №. 2. – С. 17-21.
12. Sharipova G. I. Peculiarities of the morphological structure of the oral mucosa in young children // International journal of conference series on education and social sciences. (Online) May. Turkey. – 2022. – С. 36-37.
13. Sharipova G. I. Dynamics of cytological changes in the state of periodontal tissue under the influence of dental treatment prophylactic complex in young children with traumatic stomatitis // Multidiscipline Proceedings of digital fashion conference April. Korea. – 2022. – С. 103-105.
14. кизи Наркулова И. Р. ОСОБЕННОСТИ ОБУЧЕНИЯ РУССКОМУ ЯЗЫКУ КУРСАНТОВ-БИЛНГВОВ С ИСПОЛЬЗОВАНИЕМ ИНФОРМАЦИОННО-КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ //Educational Research in Universal Sciences. – 2022. – Т. 1. – №. 3. – С. 185-193.
15. Sharipova G.I. Assessment of comprehensive dental treatment and prevention of dental diseases in children with traumatic stomatitis // National research in Uzbekistan: periodical conferences: Part 18. Tashkent. -2021. - S. 14-15.