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Contactless blood activation test byphysical methods

Graduation work

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CONTENTS

Conclusions

In the graduate work, for the first time, the effect of contactless activation on the state and properties of blood and its formed elements, red blood cells, was experimentally investigated by various physical methods. Based on the results of the work done, we can draw the following conclusions:

1. The process of non-contact activation of the liquid in containers of the material used (polyethylene) with a wall thickness of 0.16 mm occurs, as a rule, in 10 - 15 minutes, the relaxation process can last for hours.

2. The time Eh of a contactlessly activated liquid in polyethylene containers reaches a stable level is an average of 15 minutes.

3. The change in the amplitude of oscillations and the percentage of red blood cells with bioelectrical activity during non-contact activation is due to a change in the surface charge of cells.

4. Non-contact activation of blood, accompanied by a shift of Eh to the region of negative values, is characterized by an increase in blood radio transparency: the attenuation coefficient of microwave waves increases.

5. A change in the morphology of red blood cells with non-contact activation indicates structural changes in the membrane.

6. The change in the electrokinetic properties, the structure of the erythrocyte membrane, the attenuation coefficient of the microwave waves in the blood with non-contact activation is due to a change in the energy potential and the appearance of structural - energy excitations in the blood.

7. A methodology has been developed and a training and methodological stand has been created for laboratory work on the topic: ’’ Research of water quality using the biotest”.

8. The obtained experimental results can serve as the basis for the development of new methods for culturing cells, creating systems for long-term blood storage (biotechnology, medicine, water treatment, etc.). It is also supposed to be possible to introduce the diagnosis of various diseases at an early stage of their development.