

Biological composition of blood cells and diagnosis of patients with pathological diseases.

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ABSTRACT.

Abstract. Today, Uzbekistan is a major scientific center in Central Asia. About 300 scientific institutions are operating in the country. There is a scientific-research base and a large scientific fund, which includes more than 25 thousand qualified scientists and researchers. The scientists of the republic have made a great contribution to such fields as microelectronics, astronomy, biophysics, genetics, chemistry, biology, geology, and information technologies, and are conducting fundamental research in important areas of modern science.

Today, in medicine, identifying and accurately diagnosing various diseases is considered one of the most difficult problems. Using the experience and methods of developed countries, it is recommended to use algorithms for processing blood cell images and accurately diagnosing them.

Key words: Pathological diseases, thermoregulation, osmotic pressure, isotonic solution, hypertonic or hypotonic solutions, echinocytes, erythrocytes, organization, stomocytes, spherocytes, basophils.

Introduction.

The achievements of Uzbek scientists in the field of probability theory, hydrometeorology, medicine and information technologies, agriculture are known to everyone. The share of state funds allocated to the development of science during the transition period is 0.5-0.6% of the budget. Every year more than 3.5 billion soums are allocated to research programs implemented by the State Committee for Science and Technology. Based on the issues of Uzbekistan's development, early detection of diseases using information technologies in chemical and biological sciences, and their correct diagnosis is a very important factor. is appropriate.

To date, several scientists have been contributing to accurate diagnosis of diseases and early detection of disease. There are also methods of foreign scientists

and opportunities for mutual cooperation in this field. Chemical engineering sciences; biological sciences; During the years of independence, Uzbek scientists achieved great achievements in the chemical and biological fields of science. Gold medals named after al-Khorazmi, Habib Abdulayev and Zahiriddin Babur were established at the Academy of Sciences. In 1993, Academician H. F. Fazilov became the first winner of the gold medal named after al-Khorazmi and Ibn Sina in natural and engineering sciences. Correspondent member of the Academy of Sciences of the Republic of Uzbekistan U.I. Karimov was the first to be awarded the Golden Medal named after Z. Babur for his outstanding services in the field of humanitarian sciences.

From chemistry - academics A.S. Sodikov; S.U. Yunusov, M.N. Nabiev; from biology - academicians Schroeder RR, K.Z. Zakhirov; D.K. Saidov, F.N. Rusanov, M.V. Mukhamedjanov; in medicine - academicians V.V. Vahidov; S.A. Alimov. Academicians H.M. Abdullaev, H.N. Baymuhamedov, G.A. Mavlianov in the field of earth science. Academic Ya. G. Gulamov was a famous archaeologist. Academician I.M. Mominov's works in the field of philosophy gained world fame. Recently, a number of joint scientific and technical projects have been implemented with the USA, Germany, India, and the CIS countries on a bilateral basis. International scientific and engineering seminars and conferences are regularly held in the republic in various areas of natural sciences, humanities, medicine, agriculture, practical research, innovation problems, commercialization of science, development and transfer of technologies.

A cell is a living organism made up of nuclei, and its evaluation process can be observed under a microscope. At first, images of cells magnified 10-40 times can be seen under a microscope, but now images magnified 2000 times can be seen.

Because the blood is the window of the body, we can diagnose pathological diseases in the body depending on the blood composition. Blood makes up 7% of the body mass and its composition is mainly composed of 1 erythrocytes 2 leukocytes 3 thrombocytes, each of which has its own characteristics and functions 1 transport (delivers oxygen from the external environment to organs and tissues) 2 Management controls nutrients in the blood the function of erythrocytes 3 Protective function (protects the body from bacteria, viruses, and iodine bodies from the external environment. The function of leukocytes in the blood) 4 Thermoregulation (the body temperature is maintained at an average of 36.2 ° due to the timely delivery of oxygen to the body as a result of the blood flow of the heart pump 5. Osmotic

pressure (the blood plasma is the pressure against the ions contained in the blood, the osmotic pressure of the blood is equal to 7.6-8.1 amp atmospheric pressure)

Chemical composition of blood

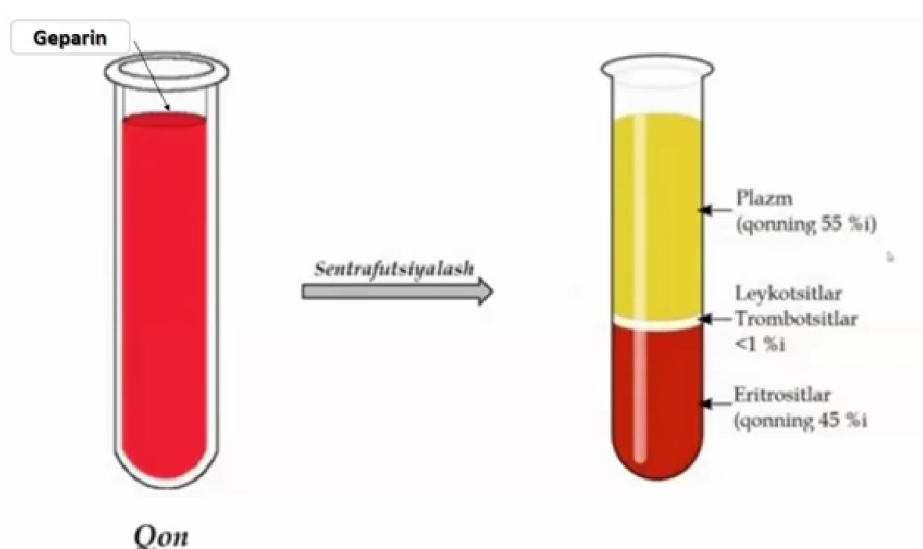


Figure 1 Blood composition

Methodology

Blood is taken from the patient and put into a test tube (Fig. 1) and 2-3 drops of heparin solution are dripped into it and poured into a centrifuge (a special device rotates the blood very quickly) and as a result, the blood is separated into 2 parts, that is, the heavy part of the blood (shaped elements of the blood) sinks down (erythrocytes), the lighter one rises to the top (plasma). Leukocytes and thrombocytes are separated between them, and pathological diseases are determined due to the increase or decrease in the amount of these cells.

Basically, 55% of the blood plasma consists of more water (yellow color), its composition consists of antibodies (enzymes), antitarsin (vitamins). Leukocytes (white blood cells), thrombocytes make up 1%. Erythrocytes make up 44% of the blood (red blood cells). Based on these indicators, we determine how much the blood is liquefied or thickened.

If the patient's immunity against harmful bacteria from the external environment in the blood is low, plasma is poured into him (because there are antibodies in the blood plasma). Such conditions are cured in pathological diseases

of liver cirrhosis. Allergic diseases are mainly caused by a decrease in the ability of basophils (leukocytes) to produce anti-inflammatory substances in the blood.

Erythrocytes are living organisms (ball shaped) and their composition is 100% hemoglobin. It depends on the age of the person and the diagnosis of the pathological disease in the body. These cells live an average of 120 days, they get old and die, they cannot fulfill their task. Figure 2. For example, young erythrocytes make up 1-2% of blood. In the language of medicine, echinocytes make up 6% of the total amount of erythrocytes. Stomocytes make up 2%, spherocytes make up 1%. If old erythrocytes increase in the composition of the human body, the patient's blood production function will be disturbed (pathological diseases will occur). The number of all erythrocytes is normal.

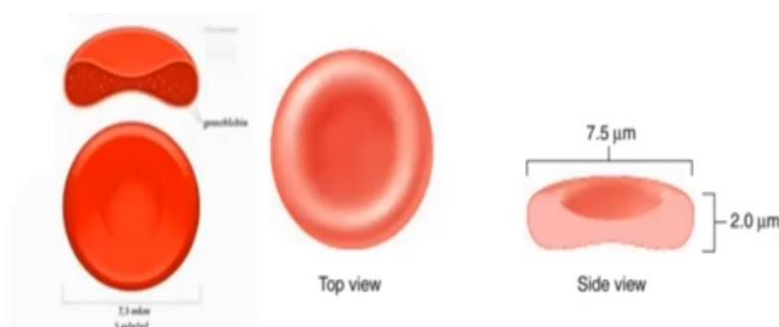


Figure 2. Appearance of mature erythrocytes



Fig. 3 Movement of erythrocytes in blood vessels

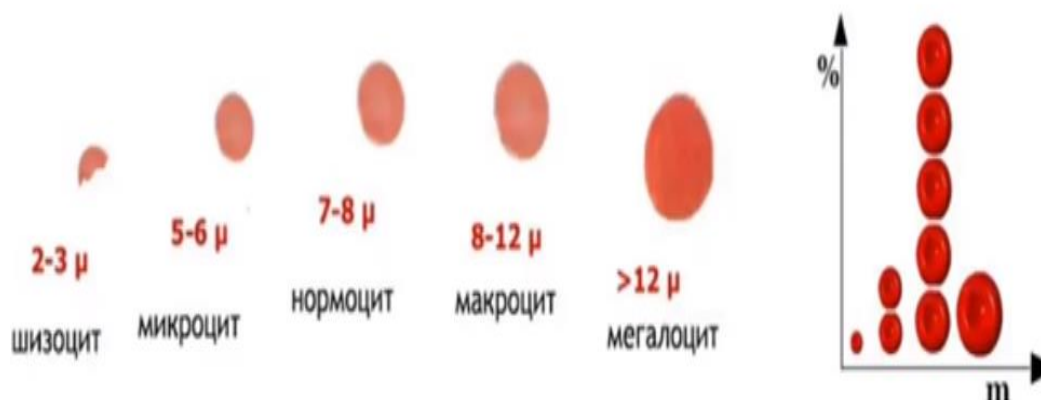


Fig. 4 Normal form of erythrocytes

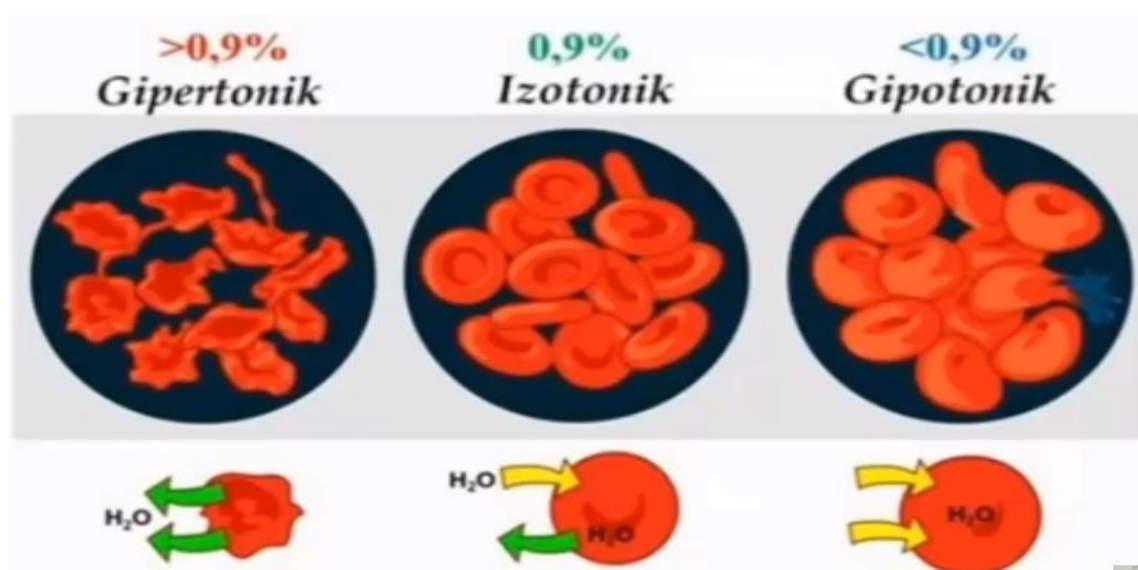


Figure 5 Physiological appearance of blood

Due to dehydration of the patient's blood composition, for example, diarrhea or dehydration of the body due to the rise in air temperature in the summer months is observed. In such cases, it is considered very bad to bring the body back to normal (Fig. 5), because as a result of this, there is a high risk of developing other pathological diseases.

Conclusion. So, in such cases, the patient is given an isotomic solution. 0.9% sodium chloride is recommended to give a solution that increases the moisture content of the blood. Unfortunately, in some cases, as a result of giving hypertomic or hypotomic solutions to patients, the fluid in the cell leaks out, the cell does not expand its activity. As a result of not being able to do this, they suffer from a pathological disease. That is why it is recommended to give isotomic fluid to normalize the amount of fluid in them.

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