

## PECULIARITIES OF THE CARDIOVASCULAR SYSTEM DEVELOPMENT OF PREMATURE BABIES

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**Introduction.** In children who were born earlier than the prescribed period of pregnancy and are premature, the internal organs and systems have not undergone the proper maturation process and can still work incorrectly or completely do not perform their functions. Due to this, the health of these children can cause problems that affect the further development and require the help of doctors, special care conditions and careful follow-up. The heart is the first organ formed from embryogenesis. It starts beating and pumping blood for 21 or 22 days, just three weeks after fertilization. This emphasizes the crucial importance of the heart in the spread of blood through the blood vessels and the vital exchange of nutrients, oxygen and products of vital activity, including in the developing in the womb of the mother of the child.

**Aim.** Therefore, the purpose of our studies was to study the features of the development of the cardiovascular system in premature babies.

**Materials and methods.** In order to accomplish this task, we conducted an analysis of the data of the Department of Health of the Kharkov region for the 2015-2017 period on the total number of premature babies, the structure of mortality of premature babies and the main diagnoses.

**Results and discussion.** One of the most common heart problems in premature babies is the condition of the open ductus arteriosus (which is considered to be a heart defect at birth), which should close at birth, which disrupts the blood circulation between the lungs and the heart of the child. If the arterial duct is very thin or almost closed, then problems will not arise, but if the size of the hole is large, the children become very tired, they do not eat well and suffer weight gain, the heart is overloaded, it overstrains, difficulty breathing and lung function. A small hole is simply observed, assigning special anti-inflammatory drugs that stimulate the overgrowing of this duct. Sometimes an operation is necessary to correct a defect.

**Conclusions.** A premature baby needs special care from both the medical staff and his parents – he needs a lot of love and affection, care and patience. And of course future parents should know the physiological basis of prenatal and postnatal development of the child.

## CAUSES OF DECREASED IMMUNITY

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**Introduction.** Immunity is our main "shield" against external stimuli, such as viruses. The biological role of immunity is to ensure the genetic integrity of the organism throughout its individual life. However, to date, immunity has been confronted with a number of factors that reduce its antiviral ability or even render it impotent. According to the information that WHO published annually, at least 30% of patients who turn to doctors suffer from a decrease in immunity.

**Aim.** To consider the risk factors for immunity we studied and disclosed a new threat to our body.

**Materials and methods.** To analyze the factors that contribute to a decrease in immunity, the literature data were analyzed.

**Results.** One of the reasons for the decrease in immunity is poor nutrition, and in fact, the transfer factor, which is a key element of the immune system, and contained only in high quality and natural products, is now available with food is not always.

Stresses are the most urgent problem. Under their influence in the body, the number of leukocytes decreases, which means that the body becomes more vulnerable. Also, a decrease in immunity observed when sleep disturbances occur.

In addition, annually scientists are exploring newer and newer types of viruses. To some viruses, our body develops a strong immunity, to others, immunity persists only for several years, but now a virus has appeared, against which our immunity is powerless.

Most recently, the entire known influenza virus and other viruses have been joined by the yet unknown, but very dangerous Zika virus. Scientists are sure that the virus is able to deceive the body's immune system and infiltrate vital tissues, protected from their own antibodies. Antibodies can damage the vital tissues of certain organs (eyes, brain, placenta and testes), so they are protected from the mechanisms of the immune system. According to the director of the National Institute of Allergies and Infectious Diseases of the United States Anthony Fauzi, the virus, getting into the listed organs, persists in them longer than in other tissues and our immunity does not affect it and accordingly does not fight it.

**Conclusions.** Immunity is difficult to resist viruses and infections. Reproduction of the virus occurs very quickly, and therefore antiviral drugs make sense to use in the first hours of the disease. Therefore, we cannot rely forever on them. Everything is much more complicated. To strengthen our immunity, we must pay attention to all aspects of our lives: nutrition, daily routine, people around us, etc.

### **STUDY OF ANTIINFLAMMATORY ACTIVITY OF GEL WITH METRONIDAZOLE BENZOATE ON THE GINGIVITIS MODEL IN RATS**

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**Introduction.** The deterioration of the dental condition of the population is closely linked to unfavorable living conditions, the environmental situation, uncontrolled use of drugs, stress, malnutrition, harmful habits, non-compliance with oral hygiene. The largest group of dental diseases is inflammatory periodontal disease, including gingivitis.

The **aim** of the work was to study the pharmacological effectiveness of the new combined agent – gel for the care of gums under the condition of experimental gingivitis in rats.

**Materials and methods.** The object of the study was gel for gums that includes: metronidazole benzoate; sodium salt of hyaluronic acid; miramistin; benzoquine. The dysbiosis of the oral cavity of rats was simulated by intragastric administration of the aqueous solution of lincomycin to rats, and then local lesions of the mucous membrane (MM) were induced by the prick of the mandible and gums. Subsequently, a suspension of bee venom at a concentration of 2 mg/ml in a volume of 1-2 ml / animal for 3 days was applied to the CO of prick of the mandible and the clear rats. Treatment with the investigated means began at 13 days of the experiment. From day 14, treatment with the gel was started, which was applied to the animals to the affected sites of the lower jaw MM once per day for 5 days in the form of applications. The intensity of the developed inflammatory process was evaluated for the severity of the inflammatory response of the MM spatula of the jaw. As a basis, a semi-quantitative visual assessment in points according Sokolovsky V.V. was adopted: 0 points – absence of hyperemia and any signs; 1 point – weak redness of MM spatula and cheeks; 2 points – edema; 3 points – an increase in the volume of the gingival groove; 4 points – bleeding.

**Results and discussion.** Combined use of antibiotics and bee venom caused inflammation of the oral cavity of rats from the control group, the severity of which in a semi-quantitative assessment was 2.17 points at 14-th day. With the use of gel for gum, the severity of the inflammatory process in the oral cavity of rats significantly decreased to 0.33 points.

**Conclusions.** The obtained data proved the presence of anti-inflammatory properties in the investigated gel, the mechanism of action of which requires further research.