Burega I. Yu.

FEATURES OF IRON METABOLISM IN RATS WITH THE ERYTHROPOIESIS OPPRESSION AFTER ADMINISTRATION OF BLOOD SERUM OF ERYTHROPOIETN-STIMULATED ANIMALS

Zaporozhye State Medical University, Department of Normal Physiology, Zaporizhzhia

Indication for transfusion therapy is maintaining of normal oxygen- transport function of blood due to anemias of the various origins. For the correction of anemic syndrome apply the different transfusion environments: stored blood, packed red blood cells and erythrocyte suspension depleted of leukocytes and platelets, washed and thawed erythrocytes, filtered from the leucocytes erythrocyte- containing environments, the phenotype of the packed red blood cells. Transfusion of blood components is a potentially dangerous method of the correction and replacement of its deficiency in the recipient. Complications after transfusion, previously merged in term the "transfusion reactions" may be due to a variety of reasons and occur at different times after transfusion. One of them is erythropoiesis oppression. The research was aimed to determine and study the features of iron metabolism in rats with the erythropoiesis oppression after administration of blood serum of erythropoietin-stimulated animals. Studies were conducted on the 90 white male laboratory rats. Animals were divided into the 5 groups: the 1-st group – intact rats; the 2 – d group – the rats which were administrated of 0,4 ml of Epobiocrin solution subcutaneously in calculation 150IU/kg; the 3 – d group – rats, which were intraperitoneally administrated of 3,5 ml/100 g of the 80% washed red blood cells suspension; the 4-th group – intramuscular administration to rats of the 5-th day from the 3-d group of 2 ml of blood serum of the 2-d group; the 5-th group – control (C), the animals which were administrated of 2 ml of equivalent amount of the physiological solution. The polycythemia was modeling by the way of single administration into the abdominal cavity of 80% suspension (3,5 ml/100 g), which was obtained after the triple laundering of animals' venous blood of the physiological solution. The animals' killing and taking of the material in the 2-d experimental group were done on the 3-d day, in the 3-rd experimental group were done on the 5-th, 6-th, 8-th and 10-th days, in the 4-th and 5-th groups – on the 1-st, 3-rd, 5-th days after injection. In animals of all tested groups were studied the following indicators: the reticulocytes quantity (%), the red blood cells quantity (x 10^{12}/L), hemoglobin quantity (g/L), hematocrit (%), iron serum (μM/L) total iron binding capacity (TIBC) (μM/L), unsaturated iron binding capacity (UIBC) (μM/L), a percent of transferrin saturation (%). The researches were conducted on the equipment of the clinical diagnostic laboratory of Scifically-Educational Medical Center "University clinic" Zaporozhye state medical university. The administration to rats of 80% packed red blood cells was contributed to the oppression of erythropoiesis that leaded to the decrease in iron requirement of the red bone marrow and, consequently, to the braking of the mechanism of iron transport. It is known, that unidentified signal is transmit the condition of the bone-marrow-erythropoiesis in the intestine. This process occurs even when there is the systemic iron overload. On the basis of the received data, to animals with the oppression of erythropoiesis was administrated the

blood serum that was selected on the 3-d day in rats after previously stimulation of erythropoiesis, which was not contained the erythropoietin. The administration of the blood serum of erythropoietin-stimulated animals to rats with experimentally simulated polycythemia on the 5-th day of experiment at the background of maximal oppression of erythropoiesis leaded to the increase of activity of the mechanisms of iron transport, as indicated the significantincrement of total iron binding capacity, unsaturated iron binding capacity and percentage of transferrin saturation. Findings allow to expand the modern idea about systemic regulation of iron in organism and assume the presence of the intermediate humoral regulator that affects mechanism of iron transport in organism.

Рябоконь Е.Н., Баглык Т.В., Катурова Г.Ф., Стеблянко Л.В.

ОБОСНОВАНИЕ ПРОВЕДЕНИЯ И ОЦЕНКА ЭФФЕКТИВНОСТИ ЭКЗОГЕННОЙ ПРОФИЛАКТИКИ КАРИЕСА У ВЗРОСЛЫХ.

Харьковский национальный медицинский университет, кафедра терапевтической стоматологии

В современной стоматологии особый интерес представляют исследования, касающиеся профилактического корректирующего воздействия на эмаль при нарушении минерального баланса зубов у взрослого населения.

Тенденция к увеличению прироста интенсивности кариеса и повышение его распространенности среди взрослого населения требуют обоснования возможности и целесообразности проведения профилактических мероприятий и оценки их эффективности у этого возрастного контингента.

Планируя выбор средства проведения экзогенной профилактики, мы учитывали, что кальций является главным минеральным компонентом, потеря которого приводит к патологическим процессам в эмали.

Из лечебно-профилактических средств кальций проникает в эмаль как за счет изменения ее проницаемости, так и за счет сродства кальция и минерализованных структур эмали, задерживается белковой матрицей эмали, включается в элементарную ячейку гидроксиапатита.

Целью нашего исследования явилась оценка структурной резистентности эмали при профилактическом применении кальцийсодержащей зубной пасты у взрослых лиц.

Объекты и методы исследования. Объектами исследования явились 27 волонтеров в возрасте 20-24 лет, разделенных на две равнозначные по возрастно-половому признаку группы. Пациенты I-й основной группы (14 человек) пользовались зубной пастой «Президент уник» (Италия), которая в качестве основных действующих веществ содержит кальция лактат, кальция глицерофосфат, кальция пантотенат, папаин и ксилит. Пациенты II-йгруппы (13 человек, контроль) использовали гигиенические зубные пасты. Все пациенты чистили зубы 2 раза в сутки по 3 мин., утром и вечером, по стандартной методике.

Методы исследования: осмотр, определение гигиенического индекса (ГИ) по Федорову-Володкиной, клиническое определение скорости реминерализации эмали по Т.Л. Рединовой, В.К. Леонтьеву, Г.Д. Овруцкому.