



CONDITION OF ERYTHROCYTE LINK OF HEMOPOIESIS AT CHILDREN RESIDING ON TERRITORIES SUFFERED AS A RESULT OF THE CHERNOBYL ACCIDENT

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Anemias are rank first in structure of hematological pathology among children population of territories affected by the Chernobyl accident. Their frequency at children of different age deviates from 11% to 24%.

Causes of development of anemias could be different. These are impact of unfavorable environmental factors, endocrine diseases, hypothyrosis in particular, shortages of feeding, deficiency of microelements, protein, disruptions of iron metabolism and porfirines synthesis. Then multifactoral impact of herbicides, pesticides, heavy metals, and, at least, ionizing radiation could lead to changes peculiar for myelodysplasia of hemopoiesis.

For assessment of condition of erythrocytary link of hemopoietic system 602 children, age from 6 months to 14 years, with anemias were investigated residing in Kiev, Zhitomir and Rivne regions.

For diagnostics of anemias the following indices were studied: content of hemoglobin, quantity of erythrocytes, average content and average concentration of hemoglobin in erythrocyte, its volume, levels of serum iron and ferritin, synthesis of porfirines, content of lead in urine.

At 96% of investigated people anemia of light degree was diagnosed, at the rest cases anemia of medium and heavy degree of severity was observed.

Taking into account decrease of average content of hemoglobin in erythrocyte up to 24.5 ± 1.1 pg, its average volume up to 72.3 ± 1.2 fl, serum iron up to $1,3 \pm 1,3$ μ mol/l and ferritin up to 32.3 ± 2.4 ng/l anemia was diagnosed at 53% of children with priority deficiency of iron.

In 45% cases course of anemia was under background of physiological indices of saturation of erythrocytes and blood serum with iron. As a rule this anemia was observed at individuals being often sick, under presence of chronic foci of infection in organism, under non-rational feeding with deficiency of protein, vitamins, different microelements.

At 2.8% of children anemia was accompanied by increase of content of iron in blood serum up to 27.3 ± 1.3 μ mol/l and average volume of erythrocyte up to 98.4 ± 1.1 fl. It is necessary to take into account, because results of our studies have shown that at children with acute lymphoblast leukemia disruptions of indices of iron metabolism are observed and level of serum ferritin exceeds physiological indices in 4-5 times and is 701.4 ± 32.8 ng in acute period of the disease.

It should be also pointed out that concentration of iron and ferritin in blood plasma do not give themselves any useful evidence about condition of tissue reserves of iron. The most complete information about iron level in organism is given by indices of saturation of transferrin and ferritin by iron and also by «magnetic biopsy» of liver using high sensibility magnetometers.

We have noticed that at children, age 5-7 (period of primary extension) deficiency anemias had course under background of decrease of thyrotropic hormone. Connection between quantity of erythrocytes in blood and TSH level was established (Ro-Spir-0.43).

Results of data obtained have shown that deficiency anemias at children are consequence of impact of complex of unfavorable factors at hemopoiesis, both of endo- and exogenic nature. It is necessary to take into account during prescription of adequate therapy and formation of enhanced risk groups on oncohematological pathology among children suffered.