

**COMPARATIVE ACTION OF SALTS
OF IRON AND COBALT
ON THE CYTOGENETIC INDICES IN RAT
ERYTHROCYTES AND AGAINST
THE BACKGROUND OF CORRECTOR**

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Experiments were carried out on laboratory rats ($n = 55$) weighing 200-210 g, who were divided into 5 groups. The first group ($n = 18$) consisted of control animals. The second group ($n = 9$) consisted of rats inoculated per os acute doses of iron salts ($LD_{50} - 100$ mg/kg). The third group ($n = 8$) – rats that received acute doses of cobalt salts ($LD_{50} - 80$ mg/kg). The fourth group ($n = 10$) – animals that received sublethal doses of ferrous sulfate (100 mg/kg), together with herbal preparations «Lady's-mantle» (10 mg/kg). The fifth group ($n = 10$) – animals that received sublethal doses of cobalt sulfate (80 mg/kg) simultaneously with the drug «Lady's-mantle» (10 mg/kg).

To assess the cytogenetic homeostasis of experimental groups of animals used micronucleus test, proposed by Pappenheim. Micronucleus took into account in the peripheral blood erythrocytes in rats. The content of erythrocytes with micronuclei during iron intoxication ($0,43 \pm 0,05^*$) increased by 59,2% ($p < 0,05$), when poisoning by cobalt ($0,55 \pm 0,02^{***}$) increased by 103,7% ($p < 0,001$)

compared to the control group ($0,27 \pm 0,04$). On the background of the drug «Lady's-mantle» during intoxication with salts of iron ($0,27 \pm 0,01^*$) in the group of animals the number of erythrocytes with micronuclei decreased by 37,2% ($p < 0,05$) in contrast to rats inoculated only with iron salts. Rats treated with cobalt salts, together with the drug «Lady's-mantle» ($0,39 \pm 0,02^*$) number of erythrocytes with micronuclei decreased by 29,0% ($p < 0,05$) compared with animals receiving only the cobalt salt.

It was found that acute intoxication of animals with heavy metals increased the number of cells with micronuclei. There has been a rapid distribution of metals in cells, then tissues and organs, which led to the development of toxic effect on the level of hematopoietic cells, resulting in the development of cytogenetic disorders. In acute intoxication the most damaging effect on the erythrocytes was observed in the following descending order of heavy metals in the sequence: Co → Fe. The drug «Lady's-mantle» from the group of bioflavonoids reaches a positive therapeutic effect by stabilizing cell membranes, neutralization of toxic free radicals et al. It is arguable that the effect of preparation decreased the toxic effect of heavy metals in the blood cells of laboratory rats.

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