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Assessment of Antioxidative and Phagocytic Status of Organism during Detoxification of Persons Contaminated with Radionuclides in Territories of Briansk Oblast

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The functional activity of blood polymorphonuclear leukocytes and integral antioxidative activity of plasma were measured using ultra-weak light fluxes emitted by these biosystems during metabolism chemoluminescence). Comparisons of these cellular behaviors were obtained by testing performed at the beginning, the middle, and upon conclusion of treatment.

For the majority of patients treated with the detoxification method developed by Hubbard (28 males aged from 20 to 40), it was established that the initial levels of antioxidative activity (AOA) and functional activity of polymorphonuclear leucocytes (PML), the total amount of blood leukocytes, and the percentage of PML among them were within the limits of normal physiological standards.

For patients with initially deviated levels of the above parameters, detoxification normalized these parameters by the end of the course of treatment.

For almost all patients an increase in the resources of the phagocytic system, an improvement in the antioxidative status of the individual, and increased cleanliness of the internal media were noted. This strongly indicates a general improvement of the organism and an increase in its resistance to environmental challenges as the result of detoxification treatment.

In future studies, testing to estimate disturbances in the oxidative metabolism of the organism and to detect any imbalances of the POL-AOA system in blood serum should include biophysical methods (i.e., chemoluminescence, fluorescence probes, and spectrophotometry).