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**PECULIARITIES OF ACCUMULATION OF SILVER NANOPARTICLES IN THE  
INTERNAL ORGANS OF RATS**

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Silver nanoparticles are widely used in our every day life, medicine etc, but a comprehensive understanding of how Silver nanoparticles are presently one of the most frequently used nanomaterials in consumer products because of their proposed antimicrobial properties. Silver in the form of Ag<sup>+</sup> ions has toxic effects on many pathogens, including bacteria, viruses, and fungi. Because of its relatively low toxicity in humans, silver has been used in various medical applications. Silver nanoparticles distribute in the body and the induced toxicity remains largely unknown. The present study was designed to investigate the distribution and accumulation of silver nanoparticles in rats with intraperitoneal injection. The toxicology of silver and its compounds has been studied for decades.

The aim of the present study was to investigate the organ distribution and localization of silver in rats following 14 days repeated intraperitoneal injections of decahedron-shape silver nanoparticles via luminescence intensity in preparation of internal organs of experimental animals. Three groups of animals (8 rats in each group) were daily intraperitoneally administered with a silver nanoparticles solution (5 mg/kg, 1 mg/kg and 0.1 mg/kg concentration). Fourth group - biological control for 14 days. On 14<sup>th</sup> day, the animals were removed from the experiment by decapitation under mild ether anesthesia. Luminescence intensity in the green range was determined using computer microdensimetry on a scale of 256 gradations in a computer program GIMP on digital microphotographs obtained using a microscope and a digital camera.

It was observed increasing of luminescence intensity of definite preparations that testifies to dose dependence accumulation of silver nanoparticles in kidneys, liver, heart, lungs and brain. Besides these, gender-related accumulation of silver nanoparticles was revealed in kidneys, i.e. luminescence intensity was 6-8 reference units higher in epithelium of kidney's convoluted tubules of female rats than male rats.

Therefore, target organs: kidneys, liver, heart, lungs and brain. Gender-related accumulation of silver nanoparticles.

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**ADAPTATION PROCESS, LEVEL OF CELLULAR REACTIVITY AND NONSPECIFIC  
REACTIVITY OF PATIENTS WITH ACUTE BRONCHITIS**

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An important task of clinical tactics and health economics is to stop the tendency of acute bronchitis occurrence through preventive measures, substantiation of factors and mechanisms of both nonspecific and specific immune protection. The key role in it is played by the levels of adaptive stress, cellular reactivity and associated nonspecific resistance of the body of patients with acute bronchitis.

Clinical and laboratory examination of 35 men with acute bronchitis was made in accordance with the recommendations of the Order of the Ministry of Health of Ukraine 128 dated 19.03.2007. "On approval of clinical protocols for medical care in the specialty "Pulmonology". Patients with acute bronchitis underwent a complete clinical and paraclinical study according to the protocol. The control group consisted of 17 healthy individuals of the appropriate age. The type of adaptive response (stress, response to training, reaction of quiet activation, increased activity, periaction) was determined by a relative amount of lymphocytes and