

EFFECTS OF COLLOIDAL SILVER ON CLINICAL COURSE OF EXPERIMENTAL ACUTE INTESTINAL INFECTION

German A. A., Zabarna D. S., Deyneka V. M.

Scientific advisor - assist. Polovyan K. S.

SSU, Department of Infectious Diseases and Epidemiology

Relevance of the topic. The role of pseudopathogenic microorganisms (PPM) in infectious diseases is growing. In Ukraine, like in the world, from year to year increases the incidence of acute intestinal infections (AII). Also, due to irrational use of antibacterial drugs is a population of artificial selection of this flora with multiple resistance to drugs. Thus, there is need to review the traditional approach etiotropic treatment of AII caused by PPM.

The purpose of the study was to study clinical course of AII caused by PPM under colloidal silver therapy.

Materials and methods. The experiment was performed in accordance with the provisions of the "European Convention for the Protection of Vertebrate Animals used for experimental and other scientific purposes" (Strasbourg, France, 1985). A control I group was perorally entered to the healthy rats (8 zoons) 2 ml of colloidal silver (0,02 mg/day), steady-state lemon acid, by a concentration of 10 mg/l every (24±2) hours during 7 days. In 16 of mature male rats weighting 200-250 g. AII caused by the oral administration of 1,0 ml mixture of cultures PPM every 4 hours per 5 days. This animals were divided into groups as follows: group II (8 rats) – received baseline treatment: orally rehydron injected (2,5 ml/day), orally smecta (0,15 g/day in 3 divided doses) and pancreatin (12 mg/day in 3 divided doses); group III (8 rats) – on the background of baseline therapy orally received 2 ml colloidal silver (0.02 mg/day), stabilized with citric acid with a concentration of 10 mg/L every (24±2) hours for 7 days. The treatment was conducted every 24 (±2) hours for 7 days. Solution of colloidal silver required concentration was prepared ex tempore. The total duration of observation of rats was 14 days.

Results. For the hole period of attendancing after the zoons, there were no spontaneous lethal cases. For all period of attendancing for the healthy rats, which got solution of colloidal silver in an amount of 0,02 mg/day during 7 days (I group), there were not revealed any changes in behavior and moving activity. Also for these zoons the levels of appetite and fatness remained permanent (beginning of experiment (243,38±5,67) of gramme, completion – (245,63±3,83) a gramme, $p>0,05$). During the AII modelling, that is caused by the PPM, to (2,88±0,18) days the rats had oppression of cognitive and moving activity, which was accompanied by reducing of appetite. Thirst was joined in (4,63±0,13) days, and emptying changed to the pappy, green-brown colored, that did not contain the admixtures of mucus and blood. On the fifth day after infiltration of mixture of PPM cultures an experimental individuals' weight of body diminished on (9,81±0,30) %.

During the monitoring the rats, which got the base therapy only (II group) and therapy in combination with a solution of colloidal silver which was injected on the known scheme (III group), for all experimental zoons on (2,13±0,53) days the appetite and behavior and moving activity were recovered from the beginning of treatment ($p>0,05$). In this time medical drugs which were administrated had various influence on duration of diary syndrome. So, in the individuals of the III group the emptyings were normalized faster, than in zoons from II group, – on (3,88±0,13) and (5,38±0,18) days from the beginning of therapy accordingly, $p<0,001$.

Conclusion. More expressed clinical efficiency was seeing at the adding of experimental AII, caused PPM, to the base therapy, the solution of colloidal silver.