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The efficacy of the supramolecular complexes of cestodocides against hymenolepis nana

Anastasiya I Varlamova[1], **Irina M Odoevskaya**[1], **Ivan A Arkhipov**[1] and **Salavat S Khalikov**[2]
[1]ASRI Parasitology, Russia
[2]INEOS RAS, Russia

Statement of the Problem: The supramolecular complexes of anthelmintics used to treat cestode infection with sodium salt of glycyrrhizic acid (Na2GA) were created by mechanochemical technology to enhance the solubility, bioavailability of the drugs. In this regard the aim of our study was to examine the efficacy of them against hymenolepiosis of white mice.

Methodology & Theoretical Orientation: The studies were made on 48 mice experimentally infected with *Hymenolepis nana* at the dose of 200 eggs per head. The complexes of albendazole, fenbendazole, niclozamide and praziquantel with Na2GA produced by mechanochemical modification of substance in activator of percussive-grating type were used in tests. Mice of different groups of 6 animals each on the 13 day after infection received per os complexes of albendazole, fenbendazole and praziquantel at the dose of 2,0 mg/kg of active substance (AS) on 1% starch gel and niclozamide at the dose of 20 mg/kg. The substances of albendazole, fenbendazole and praziquantel at the dose of 2.0 mg/kg and niclozamide at the dose of 20 mg/kg of AS were as the basic drugs. Control animals received starch gel. The efficacy of drugs was determined on the fourth day after drugs administration by the results of helminthological autopsy of mice intestine and calculation the amount of cestodes.

Findings: The complexes of praziquantel and niclozamide with Na2GA showed the best efficacy: 100% and 83.4% respectively against hymenolepiosis. Complexes of albendazole and fenbendazole with Na2GA were not effective enough. Basic drugs – substances of albendazole, fenbendazole, praziquantel showed 46.7; 46.7; 66.7% efficacy respectively at the dose of 2.0 mg/kg and niclosamide showed 40.0% at the dose of 20 mg/kg.

Conclusion & Significance: The efficacy of supramolecular complexes of praziquantel and niclozamide was approximately 1, 5-2 times higher than the efficacy of the basic drugs. The study was supported by RSF №14-16-00026.

Biography

Anastasiya Varlamova is a postgraduate student of the third course of all-russian scientific research institute of fundamental and applied parasitology of animals and plants named after k i skryabin. the spheres of her scientific work are veterinary parasitology and pharmacology. she studies new dosage forms of drugs, tests new methodics of researches with her scientific advisor. the aim of her work is decreasing the toxicity of drugs and reduction of drug residues in food.

arsphoeb@mail.ru

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