CURRENT VIEWS AND RESEARCH ON THE PATHOGENESIS OF ECHINOCOCCOSIS

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Abstract. The most common intermediate hosts of echinococcus are productive animals: sheep, cattle, pigs, camels and others. Morphological investigations showed that various forms of fungi, species and genera of which were not determined by the authors, were frequently found in echinococcus from the operated patients, and their presence depended on the cellular reaction of the host tissue surrounding the parasite.

Keywords: Echinococcosis, morphological studies, microbiology

Objective: To study the pathogenesis of echinococcosis

Materials and methods of the research. Methods of helminthological, morphological, haematological, bacteriological, biochemical, immunological and serological studies were used. The echinococcal liquid from 105 animals of different species (sheep, cattle, pigs, horses, camels, goats) was investigated for the presence of fungi of the genus Raecilomyces and in all cases the spherules of the genus Raecilomyces were found. Spherulas of the genus Raecilomyces were also found in the blood of all animals. Their quantity in blood and in echinococcal liquid was calculated, and correlation between the concentration of fungal elements in blood and liquid or cyst contents of parasites was established.

Results of the research and their discussion. The results of the study of larval echinococcus, microbiology of echinococcal liquid, properties of microorganisms isolated from echinococcal liquid, morphological modification of the parasite, histological structure of walls allow to make the following conclusions. Contrary to what most researchers claim, we found that echinococcal fluid contains microbial flora in 74% of cases. However, as evidenced by histological studies of the parasite membranes and walls of the echinococcal bladder capsule, it can be found in echinococcal fluid of a fully viable parasite, just as bacteriologically sterile echinococcal fluid may be contained in echinococcal bladders with dystrophically changed and even necrotic membranes.

Consequently, even a dead echinococcal bladder does not always lead to infection of the echinococcal fluid, and unaltered, viable echinococcal membranes are not an obstacle to the entry of infection into the parasite.

We detected mixed microflora most frequently in the echinococcal fluid, twice as rarely a pure monoculture. However, bacteriological studies show that almost all samples containing microbial associations contain the same types of microbes - staphylococci, E. coli bacteria, streptococci and various types of fungi, a little less frequently diplococci and proteus group microbes.

Thus, all microbes found in echinococcal fluid belong to the so-called pestiferous microflora.

Conclusions: In the present work, we did not set out to find out the causes and ways of microbes penetration into the echinococcal bladder content, but we can still note that the bacteriological analysis of echinococcal bladder fluid samples, from the same animal in cases of multiple echinococcosis, indicates that infection of the echinococcal bladder content, depends not only on the condition of the parasite shell, not only on the presence in the affected animal body of an infected focus and not even on the combination of both these factors.

For example, many echinococcal fluid samples taken from different bladders parasitized from the same animal showed different microbial flora. Hence, it is not only the state of the parasite itself and the presence of infection in the host that causes the infection to enter the echinococcal fluid. Apparently, there are other, but unknown to us, conditions that influence this process.

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