

Occurrence of *Giardia intestinalis* and *Cryptosporidium parvum* in school children in Kosovo

Anna Lass¹, Krzysztof Korzeniewski²

¹ Department of Tropical Parasitology, Institute of Maritime and Tropical Medicine in Gdynia, Medical University of Gdansk, 9b Powstania Styczniowego Str., 81-519 Gdynia, Poland; ² Epidemiology and Tropical Medicine Department in Gdynia, Military Institute of Medicine in Warsaw, Grudzińskiego St. 4, 81-103 Gdynia, Poland

INTRODUCTION. *Giardia intestinalis* is a cosmopolitan protozoan parasite frequently involved in human parasitic gastroenteritis through-out the world. Transmission of the *G. intestinalis* cysts to humans occurs mainly by ingestion of contaminated water. So far, epidemiological data from Poland concerning occurrence of this parasite in the environment is fragmentary.

AIM OF THE STUDY. The aim of the study was to estimate the prevalence of *Giardia intestinalis* and *Cryptosporidium parvum*, as well as to determine occurrence of *Giardia intestinalis* assemblages known as pathogenic for humans (A and B) in population of school children living in the area of Kosovo.

MATERIAL AND METHODS. In total, 500 samples fixed in 70% ethyl alcohol were collected from school children in age 6-15 in the community of Kaçanik, southern part of Kosovo in 2016. The samples were transported to Poland and investigated microscopically in the Epidemiology and Tropical Medicine Department in Gdynia, Military Institute of Medicine. Next, the samples were investigated using molecular methods for specific detection of DNA of *G. intestinalis* and *C. parvum*. Positive samples were sequenced in order to confirm results of DNA amplification. Additionally, samples in which *G. intestinalis* DNA was detected were genotyped using PCR/RFLP assay.

Results. *G. intestinalis* and *C. parvum* DNA was detected in 14,2 % and 0.4% samples tested, respectively. Sequencing of positive samples confirmed results of PCR. Genotyping of *Giardia*-positive samples revealed presence of both human genotypes, namely A (88,8 % %) and B (22,2 %); mixed invasion was noted in two samples investigated. Results of our studies showed that *Giardia* and *Cryptosporidium* infections are present in school children from area of Kosovo, however, level of infection in investigated population do not differ from the level of infection noted in industrialized countries. This may suggest high awareness of society and proper hygienic conditions of the living environment.

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