

# Genotypes of *Giardia intestinalis* occurring in dogs and cats in Poland

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*Giardia intestinalis* (syn. *G. lamblia*, *G. duodenalis*) is a gastrointestinal protozoan of vertebrate hosts capable of infecting a large number of species, including humans and domestic animals. The parasite is the third most common agent of diarrheal disease worldwide (WHO data) and in industrialized countries the prevalence of giardiasis in humans reaches 2–3%. There are around 13 M domestic dogs and cats in Poland. Contact with pets can represent a risk to public health due to cross-infections with zoonotic assemblages of *G. intestinalis*. The aim of our study was to investigate the prevalence of infection and distribution of *G. intestinalis* genotypes in stray and domestic dogs and cats in our country.

The material for examination were stool samples of cats and dogs diagnosed with giardiasis received from the outpatient veterinary clinic in Warsaw (17) and samples from shelters in the Pomeranian and Masovian voivodships, obtained from animals without symptoms of infection (70). Samples were examined microscopically following flotation using the Faust method. 511-bp-long fragments of the gene encoding beta-giardin (bg) were amplified using the nested PCR method. The amplification products were sequenced, after which a comparative analysis of the obtained sequences (NCBI/BLAST) based on the GenBank® database was performed.

Cysts of *G. intestinalis* were detected in 15 (21.5%) tested faecal samples of animals from shelters, including 11 (12,6%) dogs and 6 (6,9%) cats. Based on bg marker analysis, *G. intestinalis* assemblages C, D and F were detected in the isolates. Assemblages C (1), D (11), F (8) were found in dogs, and F (11), D (1) were found in cats.

The study results have shown that *G. intestinalis* infection is frequent in stray cats and dogs. Assemblages A and B which are pathogenic for humans were not detected in the tested animals. However, a risk assessment of acquiring an infection through contact with dogs or domestic cats in our country requires further research using a greater number of genetic markers.

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