

Identification of a novel Assemblage B subgenotype and a zoonotic Assemblage C in human isolates of Giardia intestinalis in Egypt.

[Soliman RH](#), [Fuentes I](#), [Rubio JM](#).

Source

Faculty of Medicine, Parasitology Department, Suez Canal University, Ismaillia, Egypt. dr_rashasoliman@yahoo.com

Abstract

Giardia intestinalis (*G. intestinalis*) is a flagellate parasite which has been considered the most common protozoan infecting human. Molecular techniques are of great value in studying the taxonomy, the zoonotic potential of animal isolates and the correlation between the genetic variability of the parasite and the range of clinical symptoms observed in humans. The present work aims at genotyping *G. intestinalis* isolates from Egypt using molecular techniques. PCR targeting the β -giardin locus, RFLP and sequencing were applied to 12 microscopically positive and 3 microscopically negative samples (which were positive by real time PCR targeting SSUr DNA). Two other loci, triose phosphate isomerase (TPI) gene and glutamate dehydrogenase (GDH) gene PCR and RFLP were also applied to all study isolates. The most frequent genotype was Assemblage B (13 out of 15), while Assemblage A and C were present in one sample each. This is the first report on zoonotic transmission of Assemblage C (dog genotype) to human in Egypt. Sequencing of the Assemblage B isolates revealed new subgenotypes with consistent mutations at specific positions, some of which were not characterized previously. The results shed light on the possibility that *G. intestinalis* can infect humans through a zoonotic route and open the door to wider investigations using different genetic loci to genotype *Giardia* isolates.

[East Mediterr Health J.](#) 2011 Jul;17(7):587-92.