

Genotyping of *Giardia duodenalis* populations from children in two cities of the Triângulo Mineiro - MG

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Giardia duodenalis infection causes significant diarrhea in children and in immunocompromised individuals, it is considered zoonosis, although anthrozootic transmission is uncertain. This study aimed at the genotyping of *G. duodenalis* samples found in humans living in two cities of the Triângulo Mineiro region, Conceição das Alagoas and Uberaba – MG. The isolates of *G. duodenalis* were obtained from 86 stool samples from children (0-11 years old), DNA was extracted using phenol-chloroform and PCR reactions were directed to intergenic spacer region (*igs*) of rRNA (PCR*igs*) and PCR-RFLP for the genes glutamate dehydrogenase (PCR-RFLP*gdh*) and beta-giardin (PCR-RFLP *bg*). *Giardia* DNA was amplified by PCR in 88.37% (76/86) of the isolates by at least one of the primers evaluated: 81.57% (62/76), 68.42% (52/76) and 52.63% (40/76) were detected by PCR*igs*, PCR-RFLP*gdh* and PCR-RFLP*bg*, respectively, with no inhibitors in the negative samples. The following genotypes were identified: B-64.51% (40/62); AII-8.06% (5/62); A1/B-25.80% (16/62) and A2/B-1.6% (1/62) by PCR *igs*. B4-9.61% (5/52); B3-7.69% (4/52); B3/B4-40.38% (21/52); A1/A2/B3/B4-15.38% (8/52); A1/B3/B4-11.53% (6/52); A2/B3/B4-13.46% (7/52) by PCR-RFLP*gdh*. B-20% (8/40); A-2.5% (1/40); A/B-20% (8/40); A/B/E-15% (6/40) and B/E-5% (2/40) by PCR-RFLP*bg*. There was a predominance of zoonotic and mixed genotypes in human infections by *G. duodenalis* in this region of the Triângulo Mineiro, suggesting the participation of domestic animals in the transmission chain of the parasite. Genotype E was identified by the *bg* gene, but not by the others. The amplification of the *G. duodenalis* DNA was dependent on the marker used, being more sensitive to *igs*, followed by *gdh* and *bg*. The data suggest the importance of using two or more markers for genotyping of *G. duodenalis*, since there is a difference in sensitivity and genetic variability according to the locus used.

Support: CAPES, CNPQ, FAPEMIG, UFTM, IFTM.