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Cryptosporidium infection in cattle and rodents in dairy cattle farms in Mashhad, northeast of Iran

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Cryptosporidium is intracellular and extracytoplasmic protozoan that belongs to the phylum Apicomplexa. Fecal samples were collected from 800 dairy cattle (under 6, 6-18 and up to 18 months age old) and 150 wild mice in 10 industrial dairy farms in Mashhad, Iran (from 2010 to 2014) and transferred to the diagnostic laboratory of Razi Vaccine and Serum Research Institute. The presence of *Cryptosporidium* spp. oocysts was determined by modified cold Ziehl-Neelsen staining. Results of microscopy observation showed that 23 samples (2.87%) of cattle and 7 samples (4.6%) of rodents were positive. Samples were confirmed by a small subunit rRNA-based nested PCR, which amplified a portion of the rRNA gene (830 bp). *Cryptosporidium* spp. was determined by the banding patterns of restriction digestions of PCR products with SspI, VspI and DdeI. In cattle, the RFLP analysis of PCR products from each sample with restriction enzymes SspI and VspI; these results suggest that these PCR products belonged to either *C. muris* or *Cryptosporidium andersoni*. Further RFLP analysis with DdeI showed, banding patterns identical to *Cryptosporidium andersoni*. The results showed that the species involved in all the samples found positive was *Cryptosporidium andersoni*. In rodent, the RFLP analysis of PCR products from each sample with restriction enzymes SspI, VspI and DdeI showed that the species involved in samples found positive were *Cryptosporidium andersoni*, *Cryptosporidium tyzerri* and *Cryptosporidium* W12.

Biography

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