Cryptosporidiosis in Estonia - a neglected occupational risk

No human cases of cryptosporidiosis have been reported in Estonia after year 2000. This is in stark contrast to one of the highest incidences per capita of reported giardiasis in Europe – a parasite which share many transmission routes with Cryptosporidium infections. Cattle are potential reservoirs for human infections with zoonotic Cryptosporidium species such as C. parvum. We present the first evidence from Estonia of zoonotic C. parvum transmission. One person of a research team fell ill 4 days after sampling calves in 2007 and suffered from stomach cramps, nausea, anorexia, fatigue, muscle aches, fever, and malodorous, watery diarrhoea. Fecal samples collected on days 6 and 14 tested positive for C. spp. oocysts using the Ziehl-Neelsen staining technique. The DNA was extracted from the two human samples and from nine cattle samples from different farms suspected as the source of infection. Identification to species level was done by PCR amplification and sequencing of the small subunit ribosomal RNA gene (18S rDNA) locus and the 70-kDa heat shock protein gene (HSP70). Subgenotyping was accomplishing by amplification of the hypervariable glycoprotein (gp) 60 gene. The human sample and one of the calf samples were identical to C. parvum sequences in GenBank; and subgenotyping revealed IIaA15G2R1, which has previously been associated with human infections and outbreaks of bovine origin. The person affected consulted a general practitioner during the illness but no diagnostics were attempted. Veterinary students visiting cattle farms in Estonia have previously contracted clinical symptoms consistent with cryptosporidiosis. In some of these cases, students sought medical help in Finland and were diagnosed with cryptosporidiosis; and at least one student was hospitalized. In Estonia, cryptosporidiosis appears to be underdiagnosed and increased awareness is needed.

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