

An evaluation of the usefulness of the PCR method for *Trichinella spiralis* DNA detection in faecal samples of experimentally infected mice – preliminary results

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Routine laboratory diagnosis of human trichinellosis is mainly based on the results of serologic tests for anti-*Trichinella* antibodies. Unfortunately, these tests are not useful in the early stage of infection in which the introduction of treatment is crucial. It seems that applying specific and sensitive molecular methods of examination of faecal samples in this phase would improve the diagnosis process.

The usefulness of PCR based method for *Trichinella spiralis* DNA detection in the faeces of experimentally infected mice was evaluated.

Swiss strain mice were infected with 500 *T. spiralis* muscle larvae; daily collected faecal samples were examined from day 1 to day 21 of infection. The DNA was extracted from samples using the NucliSens MiniMag semiautomated method (bioMerieaux), with a protocol designed for faecal samples during the experiment. PCR was run, with primers pair Trich1/Trich2 (Zarlenga and Dame, 1992), under the following thermal cycling conditions: polymerase activation cycle at 95˚C for 15 min, followed by 35 cycles at: 94˚C for 0.5 min, 58˚C for 1 min and 72˚C for1 min, followed by an extension cycle at 72˚C for 4 min.

In samples collected from experimentally infected animals, *T. spiralis* DNA was found from day 1 of infection until the end of the observation period. In the control panel, the used method allowed to detect 10 muscle larvae in 1.3 g of faeces, i.e. in the amount daily excreted by 1 mouse. The sensitivity of detection was raised to 1 larvae per sample when the amount of faeces in the sample was decreased to 0.1 g.

PCR could be a useful method for the detection of *Trichinella spiralis* in faecal samples during intestinal stage of infection. Since the sensitivity of the method depends on the total amount of examined material, further studies are needed to evaluate whether detection of *T. spiralis* DNA will be possible in the case of infections with low larvae doses.