

The case of a massive *Syphacia obvelata* invasion in laboratory rats: diagnosis, treatment and prevention

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The breeding facilities of laboratory rats are often reported to be invaded by pinworms – *Syphacia obvelata*. The worms occur massively in the cecum and colon. Females lay approximately 350 eggs (120–125×30–40 µm) outside the anus. The eggs become invasive 10–20 hours after submission. Infection occurs orally and the life cycle takes 11–15 days. There is also the possibility of some larvae hatching, penetrating via the anus into the rectum and migrating into the large intestine.

Locally bred laboratory Wistar rats weighing 250–400 g were kept in 63 cages, three animals per cage (total: 189 rats). Cage bedding (litter Peer-Span) was replaced twice a week, cages were washed in an automatic dishwasher at 57°C and disinfected with Neodisher preparation after every littered bedding removal. Shelves under the cages were cleaned twice a week using a disinfectant based on quaternary ammonium compounds. The animals were fed pellets designed for rats (LaboFeed H). A stool sample was collected and tested by Fulleborn's decantation and flotation-concentration method with Darling modification. The method is based on a two-fluid flotation: saturated sodium chloride (NaCl) at a specific gravity of 1.200 and magnesium sulphate (MgSO₄), sp. gr. of 1.280. A dissecting microscope and a compound light microscope (10×, 20× and 40×) were used. Numerous eggs of *Syphacia obvelata* were found in the stool samples.

To combat this pinworm invasion, albendazole (Valbazen 10%, 10 g/100 ml) was dissolved in drinking water and administered at an approximate dose of 50 mg/kg b.w. for three days. At the same time, for two consecutive weeks, the frequency of complete replacement of littered bedding followed by cage/shelf wash and disinfection was increased to once every 48 hours. Feces samples were collected at 10, 20 and 40 days after the two-week treatment. All of the samples examined were free of *Syphacia obvelata* eggs.

In conclusion, the above methods offer efficient diagnosis and treatment, and can be useful in a long-term prevention protocol.