



HOKKAIDO UNIVERSITY

Title	HOST RESPONSE IN TRICHINELLA SPIRALIS INFECTED MICE : THE KINETICS OF MUCOSAL MAST CELLS AND IgE ANTIBODIES IN THE SMALL INTESTINE
Author(s)	IKEGAMI, Makoto
Citation	Japanese Journal of Veterinary Research, 32(2), 95-95
Issue Date	1984-04-28
Doc URL	https://hdl.handle.net/2115/4702
Type	departmental bulletin paper
File Information	KJ00002374218.pdf



HOST RESPONSE IN *TRICHINELLA SPIRALIS* INFECTED MICE :
THE KINETICS OF MUCOSAL MAST CELLS AND IgE ANTIBODIES
IN THE SMALL INTESTINE

Makoto IKEGAMI

*Department of Parasitology
Faculty of Veterinary Medicine
Hokkaido University, Sapporo 060, Japan*

The roles of subepithelial mast cells (SMC), globule leucocytes (GL) and goblet cells of the intestinal mucosa in the expulsion of *Trichinella spiralis* from the gut of ICR mice were investigated. The kinetics of these cells with relation to the worm localization and serum and tissue IgE antibodies were also studied. The entire small intestine of the infected mice was divided into four equal portions, and the number of worms, SMC, GL and goblet cells were counted.

Increase in the number of SMC and GL was seen in both primary and challenge infections, but the increase was more accelerated and greater in the latter infection. In contrast, goblet cells were seen to increase only in the challenge infection.

No significant difference was noted in the number of SMC, GL and goblet cells among the 4 segments of the small intestine. Moreover, no relationship was observed between the localization of the worms and the number of these cells in both primary and challenge infections.

Serum IgE level, measured by passive cutaneous anaphylaxis (PCA) reaction, was not detected until day 12 after primary infection, and a titer of 1 : 64 and above was seen after day 15. This IgE level was maintained even after challenge infection.

A small number of cells which bound anti-IgE serum were detected in the lamina propria and the mesenteric lymph node on day 5 after primary infection. These cells were thought to be IgE-producing plasma cells. On day 9, IgE was also detected on the surface of SMC and GL.

These results suggest that during infection with *T. spiralis*, SMC, GL and goblet cells, irrespective of worm localization, increased in number in the whole small intestine, and that through IgE-mediated local anaphylaxis, may play important roles in the expulsion of worms.