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RELATIONSHIP OF MAST CELL AND GLOBULE LEUCOCYTE DEFICIENCY
TO THE RESISTANCE
TO *TRICHINELLA SPIRALIS* INFECTIONS IN SI/SI^d MICE

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Resistance to *Trichinella spiralis* infections in genetically mast cell-deficient SI/SI^d mice was studied by investigating the expulsion of adult worms from the intestine, kinetics of intestinal mast cells and globule leucocytes, fecundity of adult worms, and serum titer of antibodies against muscle larvae antigen.

Few or no intestinal mast cells and globule leucocytes were observed in WCB6F₁-SI/SI^d mice in primary as well as in challenge infections with *T. spiralis*. However, an increase in the number of these two cells was seen in primary and challenge infections in their normal littermates, which served as controls. This implies that SI/SI^d mice are not only genetically deficient in mast cells but also in globule leucocytes.

In both primary and challenge infections, delayed expulsion of adult worms from the intestine was seen in SI/SI^d mice as compared to their littermates. Expulsion of worms occurred only slightly faster in challenge infections than in primary infections, whereas in the littermates, the expulsion was remarkably faster in the former than in the latter.

No difference was noted in the number of muscle larvae recovered from SI/SI^d mice and their littermates after intravenous injection of newborn larvae, but a greater number of muscle larvae was recovered from the former after oral inoculation of infective larvae. Adult worms isolated from SI/SI^d mice showed greater fecundity *in vitro* than those isolated from their littermates. This implies that adult worms parasitizing in SI/SI^d mice have higher fecundity *in vivo*. In both SI/SI^d mice and their littermates, no difference was noted in the production of specific antibodies, as shown by the indirect hemagglutination (IHA) serum titer as well as the IgE level measured by passive cutaneous anaphylaxis (PCA) reaction.

The above results thus indicated that mast cell and globule leucocyte might have important roles to play in the resistance to *T. spiralis* intestinal infections.