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THE RELATIONSHIP BETWEEN MUCOSAL PERMEABILITY AND EXPULSION
OF *TRICHINELLA SPIRALIS* FROM THE GUT OF MICE

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The relationship between the leakage of plasma components into the gut lumen and the expulsion of *Trichinella spiralis* from the gut was studied in mice. The permeability of the small intestinal mucosa was examined by measuring the amount of the indicator, Evan's blue, which was injected intravenously, in the gut lumen. The kinetics of mucosal permeability and worm expulsion were examined in primary and challenge *T. spiralis* infections in ICR mice. In the former, a significant increase in mucosal permeability was observed during the expulsion of worms. An increase in the number of mucosal mast cells (MMC) was also noted during this period. In the latter, mucosal permeability increased only slightly during worm expulsion.

The influence of worm burden and the duration of infection on mucosal permeability was also studied. An increase in worm burden was accompanied by a remarkable increase in mucosal permeability as well as number of MMC. Whereas, when the duration of the parasite infection was shortened by the administration of an anthelmintic drug, methyridine, no increase in mucosal permeability, and only a slight increase in the number of MMC, were noted.

Mucosal permeability was also examined in MMC-deficient SI/SI^d mice. Since a great range of mucosal permeability was noted in normal uninfected control SI/SI^d mice, the change in mucosal permeability during *T. spiralis* infection could not be evaluated.

In conclusion, the above results suggest that an increase in the mucosal permeability and the number of MMC may play important roles in the expulsion of *T. spiralis* from the gut. Furthermore, MMC infiltration may be correlated to mucosal permeability, both of which were influenced by the worm burdens and the duration of infection.