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INDUCTION OF PROTECTIVE IMMUNITY IN MICE AGAINST HETEROLOGOUS AND HOMOLOGOUS CHALLENGE INFECTION OF *ANGIOSTRONGYLUS COSTARICENSIS* AND *A. SIAMENSIS* BY LARVAL INFECTION AND BY ADULT WORM TRANSPLANTATION

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Angiostrongylus costaricensis and *A. siamensis* are pathogenic in mice because of servere histopathological changes produced even in cases parasitized by a small number of worms. In a preliminary experiment to induce immunity, it was observed in ICR mice that treatment with 200 or 400 mg/kg of thiabendazole on days 6 to 10 PI (postinfection) was not very effective in removing the worms. However, the worms were completely removed when the mice were given 80 mg/kg of levamizole on days 4 to 6 PI.

After oral inoculation with 150L_3 (third stage larvae) of either *A. siamensis* or *A. costaricensis*, BDF_1 mice were treated with levamizole, and then challenged *per os* heterologously and homologously with 100L_3. Twelve days after the challenge infection, the reduction rate of worms recovered from immunized mice as compared with the non-immunized control mice were 95% and 98% in homologous infection, and 78% and 90% in heterologous challenge infections for *A. siamensis* and *A. costaricensis*, respectively. This showed that acquired resistance against the homologous species was stronger than that against the heterologous species.

Immunity by intraperitoneal transplantation of 10 adult worms resulted in 47% and 31% worm reduction rate in homologous, and 21% and 28% in heterologous challenge infections for *A. siamensis* and *A. costaricensis* respectively, as compared with the non-immunized control mice.

Therefore, the acquired resistance induced by oral inoculation of L_3 was shown to be stronger than that induced by intraperitoneal transplantation of the adult worms.