# THE EFFECT OF IMMUNOSUPPRESSIVE TREATMENT IN ICR MICE ON THE RESISTANCE TO *TAENIA TAENIAEFORMIS* INFECTION

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ICR mice were found to be resistant to *Taenia taeniaeformis* infection. The mechanism underlying this resistance was studied by immunosuppressing the host with X-ray irradiation (400 rad), cortisone (300 mg/kg), cyclophosphamide (200 mg/kg), carrageenan (200g/kg) and cobra venom factor (CVF) (0.2mg/kg). The following parameters; larval development, cellular response and antibody production (IgM and IgG by ELISA) in the host were investigated.

In cortisone-treated, X-ray-irradiated and cyclophosphamide-treated mice, the larvae in the liver survived for 40, 20 and 10 days postinfection (PI), respectively. These immunosuppressions had an effect on T cells in common. Almost all the larvae were found dead on day 10 PI in not only the control but also in the CVF- and carrageenan-treated mice. A higher number of lesions in the liver was observed during the early stage of infection in the mice with C3 depleted by CVF treatment. This indicated that since the action of CVF in this experiment was transient, only the early stage of infection was affected.

Specific IgM or IgG were not detected in the control, carrageenan-treated and CVF-treated mice. IgG was detected after day 10 PI in the immunosuppressed mice with a longer larval survival period. Increase in IgM was noted on days 20 and 40 PI in X-ray-irradiated mice and cortisone-treated mice, respectively.

In the immunosuppressed mice that had a longer larval survival period, there was delayed accumulation of eosinophils around the larvae, and no neutrophils in the amorphous area (=onchospheral membrane) were observed during the early stage of infection. The cellular response to the larvae in mice treated with carrageenan to inactivate the macrophage was the same as that of the untreated control mice.

In conclusion, the above results suggest that eosinophils, neutrophils and T cells play a more important role than antibody or macrophage in the innate resistance of ICR mice to *Taenia taeniaeformis* infection.