INFORMATION

The Hokkaido University has granted the degrees of Doctor and Master of Veterinary Medicine to the following seven graduates on March 25, 1961. The authors' summaries of the theses for the Doctor's and Master's courses are as follows:

Theses for the Doctor's Course

STUDIES ON EXPERIMENTAL TOXOPLASMOSIS IN CHICKENS

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(Summary of Doctor's thesis directed by Dr. K. HIRATO)

Reports of experimental toxoplasmosis in chickens have been published by several workers, however, there is no one who investigated systematically the fluctuation of susceptibility in different ages to toxoplasmic infection.

Pertaining to this point, experiments are performed with the RH strain of *Toxoplasma gondii* infection being induced by a variety of routes, using adult, middle age (30~40 and 70~120 day-old), one-day old chickens and developing eggs.

In respect to their susceptibilities, the author made his investigations from clinical and serological as well as parasitological points of view.

The results are summarized as follows:

1. The susceptibility of chickens to toxoplasmic infection was found to be largely influenced by their ages, viz. in embryonated eggs (inoculated into chorioallantoic membrane, allantoic cavity and yolk sac) and in one-day old chickens (intra-cerebral, -peritoneal and -subcutaneous), these were found to be highly susceptible, dying within about 10 days. In middle ages of chickens (intra-cerebral, -peritoneal, -venous, -cardiac, -muscular and per oral), a few cases were fatally infected and died, however, the others were resistant remaining symptoms-free. Still more distinctly in adult chickens (intra-peritoneal), all showed inapparent infections even when large doses were inoculated.

2. However, it is clear that whatever the age of chickens, the infections were established regardless of the route of inoculation and the parasites were increased in chickens bodies.

Parasitemia occurred as early as the 2nd day of infection and usually persisted

until the 10th～14th day. The time of its disappearance was close to the time of appearance of antibodies.

3. A cytoplasm-modifying antibody and a complement fixation inhibiting antibody were detected in very low titers in adult chickens. Existence of such an antibody could not be demonstrated in almost all cases of young chickens; however, regardless of such low titers or negative results of inoculation, the chickens showed a very strong resistance to reinoculation with considerable large doses.

4. In the dye test, the prozone phenomenon was frequently observed in some cases in low serum dilutions such as 1:2～1:4 despite of the fact that the cases indicated low dye test titers such as 1:16 or 1:32.

So, when the test is performed in chicken serum, the existence of the prozone phenomenon is likely to be confirmed.

5. The chickens showed a tendency to clear the parasite from their infected tissues during 1～2 months after inoculation, however, in a few cases, the parasites were proven to persist for a relatively long period without causing the appearance of any symptoms.

6. The parasites were demonstrated in 4 of 88 eggs laid by such inapparent infected hens.

The author suggested a possibility that the infected chickens' flesh and eggs may serve as one of sources of toxoplasmic infection for humans and animals.