



HOKKAIDO UNIVERSITY

Title	PATHOLOGICAL STUDIES OF FOWL PARALYSIS : THE RELATIONSHIP BETWEEN THE LESIONS IN THE NERVOUS SYSTEM AND THOSE IN THE VISCERAL ORGANS
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Hokkaido University granted the degree of Doctor of Veterinary Medicine to the following graduate on September 30, 1964.

The author's summary of the thesis for his Doctors degree is as follows :

PATHOLOGICAL STUDIES OF FOWL PARALYSIS
—THE RELATIONSHIP BETWEEN THE LESIONS IN THE NERVOUS
SYSTEM AND THOSE IN THE VISCERAL ORGANS—

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(Summary of Doctor's thesis written under direction of Dr. Y. FUJIMOTO)

Histopathological studies were conducted on 81 cases of fowl paralysis, 18 cases with neoplastic proliferation of lymphoid cells in the visceral organs, 23 chickens which were clinically, macro- and microscopically free of either fowl paralysis or visceral lymphomatosis. Electron microscopic studies were conducted on 8 typical cases of fowl paralysis and 4 cases of visceral lymphomatosis.

On the basis of histopathology the nerve lesions in fowl paralysis could be classified as neoplastic proliferation (35 of the 81 cases) and non-neoplastic cellular infiltration (54 of the 81 cases). Foci of degeneration and loss of the nerve fibers were most frequently observed in the peripheral nerves (47 of the 81 cases). In the brain perivascular cuffs of lymphoid cells were found in 62 out of 80 cases (one case of the brain missed in the 81 cases) and proliferation of astrocytes in 27 of the 80 cases. In 12 cases of fowl paralysis in which many sections of the central and peripheral nervous system were examined, all the 12 cases had non-neoplastic infiltration with lymphoid cells and degeneration of nerve fibers; 10 proliferation of astrocytes; 8 neoplastic lymphoid infiltration; 7 perivascular cuffs. Electron micrographs showed that the neoplastic lymphoid cells varied in their degree of maturation.

In 13 cases, neoplastic proliferations of lymphoid cells were observed in both of the nervous system and the visceral organs. Seven of these cases were regarded as the visceral lesions of neurolymphomatosis, because histologically the nerve lesions and visceral lesions appeared confluent. Especially, electron micrographs revealed that the tumor cells in the ovary were similar to those of the neoplastically proliferative cells in the nerve tissues affected with neurolymphomatosis and no virus particles could be seen. In one of the other 6 cases, the visceral lesions

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were regarded as visceral lymphomatosis and some areas of the splanchnic nerves showed proliferation of the tumor cells of visceral lymphomatosis. On the other hand, virus-like particles (80~100 m μ) were observed in the cytoplasm of some of the tumor cells in cases of visceral lymphomatosis.

Hokkaido University granted the degrees of Doctor and Master of Veterinary Medicine to the following ten graduates on March 25, 1965.

The authors' summaries of the theses for the Doctors and Masters degrees are as follows:

Thesis for the Doctors degree

STUDIES ON LARVA MIGRANS OF GENUS *STRONGYLUS*

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(Summary of Doctor's thesis written under direction of Dr. J. YAMASHITA)

The author investigated the distribution of the larvae of three species of *Strongylus* in various tissues of guinea pigs and mice. Histological examinations were also conducted on guinea pigs infected with *S. edentatus* larvae.

In guinea pigs, the majority of orally inoculated infective larvae of the three species were excreted with the faeces. *S. vulgaris* larvae migrated very little in the host tissue. *S. equinus* larvae were found in the walls of the caecum and colon, Lnn. ileo-caecales and Lnn. mesocolici, abdominal cavity and liver. *S. edentatus* larvae were found in the same portion as above and in the lungs. In intraperitoneally inoculated mice, a very few larvae of *S. edentatus* and *S. equinus* were found in minute foci just below the liver capsule.

In guinea pigs inoculated orally with *S. edentatus* larvae, the larvae were surrounded by granulation tissue. Later the third stage larvae in the granulation tissue were absorbed, and only a very few fourth stage larvae were found in the liver, great omentum and abdominal cavity. After 60 days, no larvae were observed and the foci were gradually reduced. Most of the larvae entered the upper end of the colon through PEYER's patches. Some larvae were enclosed by granulation tissue with remarkable accumulation of eosinophiles. After 60 days, the only evidence of the larvae was a slight fibrous proliferation. The larvae penetrated

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