



HOKKAIDO UNIVERSITY

Title	COLIC OF THE HORSE AND AUTONOMIC-NERVOUS DISTURBANCES : PATHO-MORPHOLOGICAL INVESTIGATIONS
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that the d, e and f are convenient for invasion and multiplication of pathogenic microorganisms.

Hokkaido University granted the degree of Doctor of Veterinary Medicine to Mr. T. HIROSE and Mr. C. ITAKURA on September 30, 1967 under a new regulation (1962) authorizing the granting of the Doctors degrees to qualified researchers who are not graduates of the Post-Graduate School. The authors' summaries of the theses are as follows :

**COLIC OF THE HORSE AND AUTONOMIC-NERVOUS
DISTURBANCES**
—PATHO-MORPHOLOGICAL INVESTIGATIONS*—

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1) Fifty-seven cases which were clinically and pathologico-anatomically diagnosed as true equine colics (24 of constipation colic, 19 dislocation colic and 14 dyspepsia colic) were investigated histopathologically and with special consideration of neuropathology.

2) Common histopathological characteristics in the cases of the above-mentioned three colics each were composed of multiple degeneration and loss of parenchyma in the peripheral nervous system especially the autonomic nervous system (polyneuropathy), abnormality of the blood vessels (alteration; edematous loosening and swelling of the walls) in the alimentary canal, and degeneration and loss of smooth muscle fiber in the alimentary canal.

3) It was reasonably discussed that significances of these histo-pathological changes may have played important parts in formal pathogenesis of the three kinds of colics. Formal-pathogenetically occurrences of the three colics each may be decided according to quantitative conditions and localization of the disturbances of the autonomic nerves.

4) Occurrences of anamnestic and habitual colics may also be elucidated by means of disturbances of the autonomic nerves. Formal-pathogenetically it seems

* Original report of this summary appeared in *Nikkyokenpo (Exp. Rep. eq. Hlth, Lab.)*, No. 4, 151, (in Japanese with English summary) (1967).

that occurrences of spasmodic and flatulent colics are also, in the final analysis, interpreted by means of disturbances of the autonomic nerves.

5) With the exception of occlusion, worm and thrombo-embolic colics, the above-mentioned various colics may occur based on disturbances of the autonomic nerves. From the formal-pathogenetical standpoints, the author would like to advocate such an idea as that one should attach importance to this opinion, "autonomic-neurogenic theory", as one of primary factors of occurrences of true colics.

6) In the conclusion, it seems that the "autonomic-neurogenic theory" as a primary factor in formal pathogenesis should be enumerated in addition to the classic theories on primary factors of occurrences of true equine colics.

EROSION AND ITS SUBSEQUENT LESION OF FOWL AIR SACS*

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Histopathological investigation was carried out to clarify the pathogenesis of lesions of fowl respiratory organs, especially the air sacs, considered macroscopically characteristic of chronic respiratory disease (CRD). Material for the histological examination consisted of 30 chickens, from 12 to 328 days of age (group A), which had macroscopic caseous masses in their air sacs, and 36 individuals, including unpipped embryos, pipped embryos, and day-old cull chicks (group B) which had histopathologically detected lesions in the air sacs.

The results obtained are summarized as follows.

1) In group A and B, the lesions of the air sacs and related respiratory organs as the lungs and the tracheas could be classified the same category. Moreover, these lesions were very similar to those of what is commonly called "CRD".

2) Qualitatively, the degeneration and erosion at the epithelial cell layer of the air sacs were considered as an initial lesion of the disease. Such lesions were the most frequent and typical lesions of the air sacs, especially in group B.

3) Exudative detritus masses, which stained with eosin, deposited at the portion of erosion. These detritus masses frequently had the character of foreign bodies.

* Original report of this summary will appear in *Jap. J. vet. Sci.*, **30**, 7, (in Japanese with English summary) (1968).