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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.

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

4) Reactive changes were undoubtedly caused by these detritus masses. Among them, the activation of the respiratory epithelial cells was especially marked. This activation involved hyperplasia of epithelial cells and subsequent formation of tubular architecture.

5) It may be considered that inflammatory changes occurring in these air sacs as the result of degeneration and erosion of the epithelial cell layer (an initial lesion).

6) In regard to the degree and distribution of lesion, the results suggest a need for more histological sections to be studied to better understand the condition of the respiratory organs, especially in group B.