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COLIGRANULOMA (HJÄRRE'S DISEASE)

By

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Coligranuloma is a disease affecting chickens and turkeys in which granulomas occur in the liver and in the wall of digestive tract. This disease was first described by Hjärre and Wramby (1945) in Sweden. It has also been observed in United States (Bennett *et al.*, 1951) and in Canada (Schofield, 1947; Wickware, 1948).

Etiology

Hjärre and Wramby (1945) found a coliform bacterium as the causative agent and found that in many experimental chickens, intramuscular or intravenous injection of pure cultures of the coliform organism result in typical morphological lesions. Hamilton and Conrad (1958) reported that *E. coli* was isolated from this disease: they were however, unable to reproduce the disease.

Clinical and Necropsy Findings

Affected birds become thin and depressed. Usually the birds do not die, but in some cases thin and dead birds have been reported. The organs most commonly involved are the ceca and liver. Numerous granulomas were found

in the liver, in the wall of small intestine and ceca and in the spleen (Fig. 1). The lesions are rounded and project above the surface of the liver. In some cases, there is enlargement and large, irregularly shaped areas of necrosis in the liver and the lesions do not project above the surface of the liver. Microscopically, there appears to be coagulation to caseation necrosis surrounded by infiltrating endothelial, phagocytic and giant cells (Figs. 2,3 and 4).

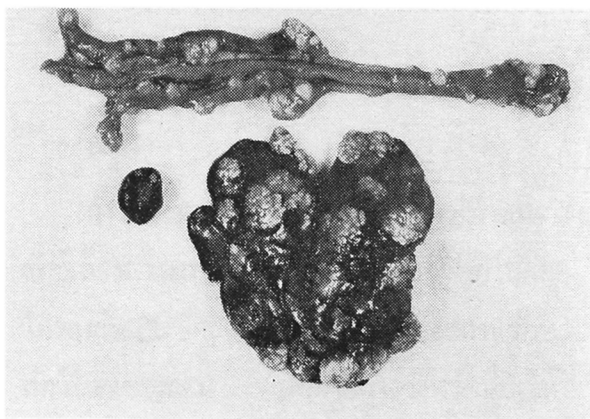


Fig. 1. Coligranuloma Showing numerous granulomas in the liver, intestine ceca and spleen.

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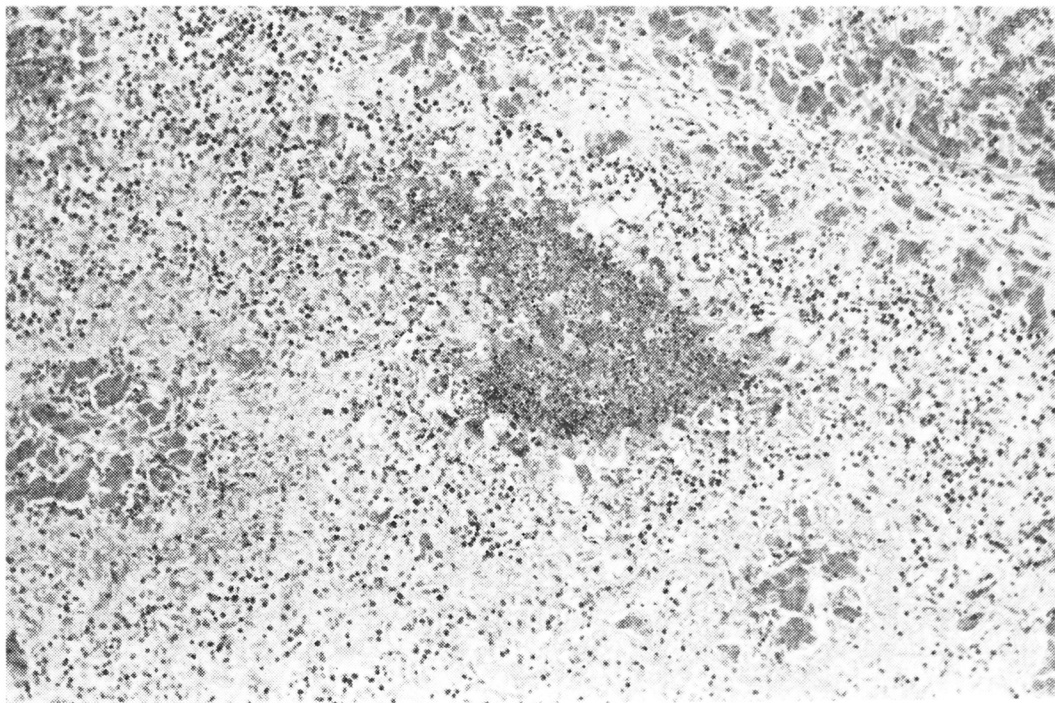


Fig. 2. Coligranuloma. Section of liver. Caseation necrosis surrounded by infiltrating endothelial and some giant cells. H & E stain. xl20.



Fig. 3. Coligranuloma. Section of cecum. Caseation necrosis surrounded by a large number of infiltrating endothelial cells. H & E stain. xl20.

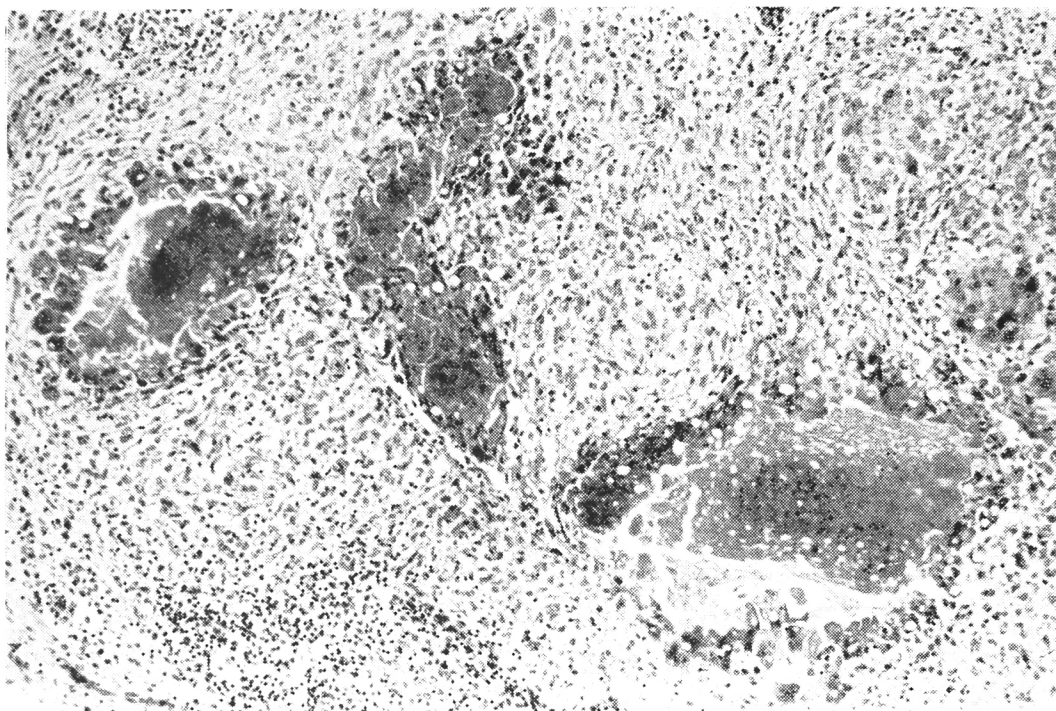


Fig. 4. Coligranuloma. Section of small intestine. Caseation necrosis surrounded by a large number of infiltrating endothelial and giant cells. H & E stain. xi20.

Diagnosis and Control

Coligranuloma may be confused with avian tuberculosis, aspergillosis or lymphoid leucosis. Old coligranuloma cannot be distinguished from tuberculosis, aspergillosis or lymphoid leucosis on the basis of morphology. Tuberculosis normally occurs in the birds over one year old and acid-fast bacilli are present in the granuloma. In aspergillosis, the typical fruiting head fungus can be demonstrated by special fungal stain of

the lesions. In lymphoid leucosis, focal or diffuse lymphoid infiltration is found in the lesions.

This disease has generally been encountered in birds on range fed a marginal diet consisting mainly of farm grains. To prevent this disease, it is recommended that range rearing of birds be avoided or that at least fresh range be used every year and that commercial concentrate be fed with farm grains (Riddell, 1971).

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นายกิมฮึง แซ่เบ๊

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