Proventriculitis in broiler chickens

Proventriculitis refers to the dilatation, enlargement, inflammation and thinning of the glandular stomach in broiler chickens, often disposing the organ to rupture easily during mechanical evisceration. Spillage of contents from the torn proventriculus results in contamination of the internal surfaces of the carcass. Proventriculitis can be attributed to either infectious or non-infectious causes. Exposure to biogenic amines (i.e., by-products of bacterial degradation of amino acids found mainly in feed ingredients of animal origin) and mycotoxins (especially cyclopiazonic acid produced by Aspergillus flavus) causes lesions without the typical inflammatory response (i.e., lymphoid infiltration) associated with infectious causes (i.e., Infectious Bursal Disease Virus-IBDV, Marek’s Disease, and reovirus). Site of lymphoid infiltration (the muscular wall vs. the glands), in addition to the typical viral lesions in other organs can be used in differential diagnosis. Several studies reported isolation of previously unidentified transmissible viruses (RII/3 virus or QX-like Infectious Bronchitis virus) from proventriculitis lesions. Since both humoral and cellular immunity is important in the infectious etiology of this condition, the prevention of immunosuppression in the field is extremely important in controlling proventriculitis in broiler flocks. Since the flocks may be exposed to viral, bacterial, nutritional and toxic agents simultaneously, lesions are rarely linked to a specific etiologic agent under commercial conditions.

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