

Intestinal Volvulus in Domestic Fowls

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Abstract: The occurrence of intestinal volvulus in adult Lowhomann, breed of domestic fowls is described in two farms. The birds were managed on deep litter system. Physical examination of the carcass revealed a portion of the small intestine involved in the volvulus (36-41 cm in length). The loop was markedly congested, distended and dilated. The possible predisposing factor was that of breed, genetic influence and management (flight) as well as coarseness of the feed. This appears to be the first report of intestinal volvulus in domestic chicken in Nigeria.

Key words: Intestinal volvulus, domestic fowls, birds, small intestine, loop, Nigeria

INTRODUCTION

Intestinal volvulus is the entanglement of a loop of intestine on itself or around another loop causing strangulation and eventual death in affected animal. The occurrence of the condition had been frequent in horses, uncommon in pigs and dogs, very few in cattle with a report in still-born calf (West *et al.*, 1988; Akpavie and Alaka, 1997) but there had been paucity of information of the condition in domestic chicken (Katiyar *et al.*, 1988). This study presents intestinal volvulus in adult breeding stocks.

MATERIALS AND METHODS

Cases were presented for necropsy at the Department of Veterinary Pathology, University of Ibadan at different times.

A farm with 37 weeks old layer breeder, Lowhomann, breed, presented a carcass. Another farm with 42 weeks old layer breeder, Lowhomann breed presented seven carcasses with three having intestinal volvulus.

These birds were managed on a deep litter system and the owners gave a history of sudden death, physical examination of the carcass from the two farms revealed pale mucous membranes and the carcasses were well fleshed and fresh.

RESULTS

At necropsy, there was diffuse peritonitis with serosanguinous fluid (between 20-30 mL) and

strangulation of the Small Intestine (SI). The length of the SI involved in the first case was not measured but the second case involving 3 chickens, Presented a volvulus of 18-20 cm cranial to the ileocecal junction and 29-32 cm distal to the gizzard. The entire length of the SI involved in the volvulus was between 74-80 cm in all the carcasses, with 36-41 cm of the loop markedly distended and dilated.

The loop of the ileum was found to have entangled the distal portion of the duodenum. This entanglement had resulted into rotation of the SI and the mesentery along the mesenteric axis. The distended portion of the SI was markedly congested and oedematous with severe imbibition of hemolysed red cells. The mesenteric blood vessels were engorged and prominent.

On incision, the lumen showed ingesta and watery fluid mixed with blood. The coiled portion was loosely adhered to the contiguous intestine and the walls of the peritoneal cavity by mild fibrinous exudate. The congested mucosal epithelial layer was necrotic, desquamated and rough.

DISCUSSION

This appears to be the first report of intestinal volvulus in domestic chicken in Nigeria. The frequency in a flock is extremely low as reported in this report, usually less than 1% but it has been observed in Yaffa, Isa brown, Nera and Goldline breeds (Akpavie, Personal Communication).

The fact that the condition was seen in few birds in different flocks and in this report, the same breed of chicken is involved, it suggests a possible genetic

predisposition than management influences as the management of the two farms may possibly not be similar to predispose this conditions. Flight, trauma and severe enteritis are possible causes of this condition in animals but in these chickens, the probable cause is uncertain.

The age predisposition to the condition is unlikely as previous, the condition was reported in 20 weeks old white Leghorn birds. Katiyar *et al.* (1988) as compared to 37-42 weeks reported in this breed. The probable predisposing factors are being studied.

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