

## A CONDITION OF EROSION AND ULCERATION OF YOUNG CHICKEN'S GIZZARD IN IRAN

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### SUMMARY :

A disease syndrome in young chickens 2-to 8-weeks - old characterized by erosion and ulceration of the gizzard epithelial lining and black vomit has been reported. The presence of a dark brown - coloured fluid in the crop, proventriculus, gizzard and small intestine was oftenly observed. The syndrome caused considerable mortality losses and reduced weight gain in broilers.

### INTRODUCTION

A few reports from the U.S.A. and Latin American countries have described a disease syndrome in young chickens known to poultrymen in latter territories as « Vomito Negro » or black vomit ( Cover and Paredes, 1971; Johnson and Pinedo; 1971).

In Iran a condition very similar to the above mentioned syndrome, coming into being occasionally noticed in the past year or so, has increased in incidence during the past six months, beginning September 1980. The following is an account of the clinical and gross pathological findings of the syndrome.

#### **Clinical signs :**

Affected chickens , 2-to 8 - weeks - old appeared depressed, lost their appetite and usually had pale combs and wattles. Birds were frequently unable to stand and some had their necks stretched on the ground. A dark - coloured diarrhea was not uncommon. Death usually occurred within few hours from the onset of the symptoms.

The morbidity rate varied from 5% to 25% and daily mortality ranged from 0.1% to 1%. The disease took a 2-to 3 - week course after which time it appeared that the birds developed some sort of resistance to the condition. The syndrome could not be seen in replacement stocks older than 8-9 weeks or in laying stocks.

#### **Gross Pathology :**

Many carcasses had pale and dehydrated musculature. The most characteristic feature of the syndrome was evident in the gizzard which contained a dark brown - coloured material of a tarry consistency.

Varying degrees of erosion could be seen in the gizzard epithelial lining which in some cases was roughened and severely eroded. Areas up to 2 Cm<sup>2</sup> of the lining were peeled off probably because of the haemorrhages occurring under the epithelial layer.

The ulceration sometimes resulted in a complete perforation of the gizzard musculature eventually leading to peritonitis. In almost all cases the perforation was located very close to the origin of the duodenum where the muscular wall is thinner.

Proventricular and duodenal walls were oedematous and thickened, and a dark brown - coloured fluid could be found in the crop, proventriculus and small intestine. The presence of this fluid in the crop and proventriculus was probably due to regurgitation of the blood stained material in the gizzard. The condition was occasionally diagnosed in conjunction with coccidiosis.

#### **Other findings & Discussion :**

It seemed rather unlikely that the syndrome was caused by bacterial agents. The microorganisms isolated occasionally belonged to different families to which no such syndrome has been attributed. Fish meal and animal byproducts have been incriminated as influencing factors in the aetiology of the gizzard erosion ( Kubena et al., 1976. Hopkins et al., 1976. Rinehart et al., 1976). It was stated that some sample of fish meal dry-heated to 120°-130°C. increased the severity of erosion and samples which had not caused the syndrome did so after being dry-heated.

In the cases reported here the condition usually appeared 3-5 days after new supplies of feed were fed, and in three outbreaks where home made feed were used new brands of fish meal were the only ingredient recently purchased and added to the feed.

In some of these outbreaks an approximately 40% reduction in losses was observed within a few days when the ratio of the fish meal (a Chilean product) in the feed had been reduced from 7.5% to 3.5% .

Ross (1979) found that pelleted diets were associated with gizzard erosion and black vomit. It was suggested that pelleting process may contribute to the condition.

In outbreaks reported here, however in only a few occasions pelleted feed was offered. Feed produced by different manufactures caused the syndrome. In one occasion and over a period of about two months many farms receiving feed from a particular manufacture experienced the condition.

Although some feed ingredients have been shown to have influence on gizzard erosion, it is still to be elucidated whether basic causes are required for initiation of the syndrome.

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