

A case report of *Histomonas* infection in chicken from Pallisa District in Uganda

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Abstract

A case of *Histomonas* infection was noted in chicken during disease investigation of suspected New castle disease outbreak in Pallisa District. Lesions were observed in the liver and caeca. *Histomonas* parasites were demonstrated in a microscope slide preparation of the caecal contents stained in Giemsa. It is being documented as a first reported case of *Histomonas* infection in a chicken in Uganda.

Key words : Histomonas, Chicken

Introduction

Cushman in 1893 first described *Histomoniasis* or Blackhead has been described as primarily as a disease of turkeys, however, Chester and Robin (1901) noted that in addition to turkeys a number of other birds could be affected especially guinea fowls, peafowls, pheasants, quail, and chicken. It came to be known that histomoniasis was also significantly important in other birds. The condition is variable. It can take a serious form with mortalities (Graybill and Smith, 1920). It may also be mild especially in chicken (Soulsby, 1982). A nematode *Heterakis gallinarum* is involved in its development cycle after the parasites have been released from organs of affected birds (Lee, 1969, Ruff, *et al.* 1970). The organs mainly effected are caeca, liver, spleen, and kidneys. Chickens have been incriminated as reservoirs of the parasites for turkeys (Soulsby, 1982). This is of importance where turkeys and chickens are managed together.

Case history and findings

Following an outbreak of suspected Newcastle disease (NCD) Pallisa District in Uganda, there was need to collect samples from effected birds for isolation of the viral agent. Post-mortem examination was done on moribund birds for this purpose and also observe pathological lesions as a disease investigation procedure. On opening the carcass of one chicken, there were some typical NCD lesions especially on the proventriculus. In addition, the liver showed two yellow lesions approx. 0.5 cm in diameter.

On incision, they were hard, caseous and embedded. Samples from these lesions were stained by Gram stain and later cultured on Blood Agar. Only *Escherichia coli* was

isolated. The caeca were both enlarged and edematous. Similar yellow, nodular lesions were observed on both caeca. On incision, they were similarly hard and caseous. The lumen contained a yellowish material (Fig 1). A wet smear was prepared from the caecal contents and examined under microscope. Numerous, round, motile and flagellate protozoan parasites were observed. These were stained with Giemsa and identified as *Histomonas* (Fig. 2)



Fig. 1.

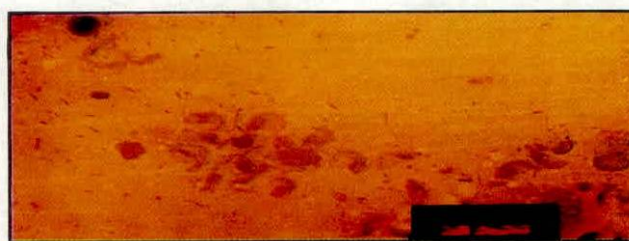


Fig. 2. A case report *Histomonas* infection in a chicken from Palisa district in Uganda

Discussion

The lesions observed in the liver and caeca were characteristic of *Histomonas* infection. These are the main target organs for the multiplication of the parasite in the affected birds (Malewitz, et al., 1958). The isolation of *Escherichia Coli* was also significant. Not only is it a normal flora of the gastro intestinal tract, it has also been shown to play some role in the development of typical *Histomonas* lesions in the liver (Bradley, et al., 1964). The demonstration the parasites in a wet smear from the caecal contents confirmed histomoniasis.

Conclusion

It was concluded that there was a mixed infection of Newcastle disease and histomoniasis in a chicken. Although the finding of *Histomonas* was accidental, there has been no scientific report of *Histomonas* infection in chicken in Uganda. This report therefore documents a case of *Histomonas* infection in chicken in Uganda.

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