Topic – Histomonas

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GENUS - HISTOMONAS
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<th><strong>Histomonas meleagris</strong></th>
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**Binomial name**

*Histomonas meleagris*  
(Smith, 1895)
Introduction:-

These are the important protozoan parasites of the turkey.

Organisms occurring in the intestine and the liver cause the disease, enterohepatitis or the black head of turkey thus causing a great hazard in the turkey industry.

It is to be kept in mind that the protozoans are transmitted by a nematode, *Heterakis gallinarum*.
**Histomonas meleagridis** is a species of parasitic protozoan that infects a wide Range of birds including chickens, turkeys, peafowl, quail and pheasants causing infectious enterohapatitis, or histomoniasis (blackhead dieases).

*H. meleagridis* can infect many birds, but it is most deadly in turkeys. It inhabits the lumen of cecum and parenchyma of liver, where it causes extensive necrosis.
Prevalence:-

This protozoa is cosmopolitan in distribution.
Species:

Histomonas meleagridis
**Description:-**

*H. meleagris* is a microscopic, pleomorphic protozoan, and can exist in two forms, amoeboid and flagellated. Within the tissue, it is present as an amoeboid protozoan, while in the lumen or free in the contents of cecum, it lives as an elongated flagellated form. The amoeboid form is typically 8-15 μm in diameter, whereas the flagellated form can reach up to 30 μm in diameter. Histomonads do not possess mitochondria, but instead produce energy inside hydrogenosomes.
Salient morphology:-

1. The shape of the organisms is variable.

2. In the organisms, there are single nucleus and single flagella.
Biology:-

1. The organisms multiply by binary fission.

2. The important feature is that the organisms get entry into the hosts through the eggs of the helminth, *Heterakis gallinarum*.

3. After hatching the *Histomonas* organisms are released and enter the caecum where these multiply and cause pathological feature.
Pathogenesis:-

Pathological features / lesions:-

Enterohepatitis.

Cyanotic discoloration of wattle.
Description:-

Minute, pinpoint and raised ulcers in the caeca are the characteristic features of initial infection which later on enlarges and involves the whole caeca resulting in caseous adherent core.

Through the hepatoportal circulation the organisms gain entry into the liver where the organisms cause formation of focal necrosis.

The lesion is formed in the liver, the surface of the lesion (characteristic circular depressed) is lower than the surface of the liver.

In the caeca ulcers are formed which coalesce to affect large area of mucosa.
Common name of the disease:-

Histomonosis.

Enterohepatitis.

Black head of turkey.
Clinical signs:-

1. Sulphur yellow coloured droppings.

2. Cyanotic discolouration of the head and wattle.
Diagnosis and control:-

Diagnosis can be easily performed by necropsy of the fresh or preserved carcass, particularly on the liver.

Recently paromomycin has been approved by the Italian authorities for treatment (Paromomicina 200mg/g Huvepharma).

However good management of the farm and sanitation are the essential effective strategies to control the spread of infection.
Treatment:-

Nithiazide and Furazolidone.

Immunity- Cell mediated immune response is found.
Thank You