



Protozoan disease in Poultry

Imran Ali

Asst.Professor

Veterinary Pathology

Bihar Veterinary College, Patna

Histomoniasis (Entero-hepatitis)

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- Histomoniasis is caused by the protozoan *Histomonas meleagridis*. The disease is seen in turkeys and occasionally in chickens.

Symptoms

- Loss of appetite, emaciation, severe depression with high mortality reaching peak in about a week
- Combs may, sometime, become cyanotic (earlier termed as 'Blackhead')
- Sulphur-yellow colored droppings in turkeys & bloody caecal discharge in chicks

Gross lesions

- Typhilitis accompanied by severe ulceration with exudation at first serous, hemorrhagic and later becoming caseated forming cores
- In the liver, focal pale grey or yellow, circumscribed or irregular shaped areas with central depressed area are pathognomonic.

Microscopic lesions

- Initial heterophilic infiltration later followed by lymphocytes and macrophages with presence of 'histomonads'

Cryptosporidiosis

- Cryptosporidiosis is caused by *Cryptosporidium maleagridis*, *C.baileyi*, protozoan parasite.
- Infection occur in very young chickens of 2 to 11 weeks old

Symptoms & lesions

- The disease is associated with enteric infection.
- Respiratory infection may also occur producing air sacculitis, pneumonia, sinusitis or conjunctivitis with coughing, dyspnoea, nasal discharge and mortality.

Spirochaetosis

- Spirochaetosis, a disease of young fowls, is caused by *Borrelia anserina* and is transmitted by a soft tick, *Argas persicus*

Symptoms & lesions

Loss of appetite, fever, depression, cyanosis of head, Anemia, paralysis, passing bile-stained feces and death

The most striking feature is enlargement of spleen with mottling due to ecchymotic hemorrhages.

Liver may also reveal similar lesions. Presence of hemorrhages in proventriculus and green mucoid enteritis are also seen.

Helminth parasites

- *Ascaridia galli*: A common intestinal nematode of poultry that causes drop in egg production, retardation of growth, diarrhea and also mortality due to intestinal blockage and rupture.
- *Syngamus trachea*: Also known as ‘gapeworms’, a respiratory nematode, presence of which cause physical blockage of the airway leading to dyspnoea, evidenced by an outstretched neck with open mouth.

- *Heterakis gallinarum* : Caecal worms, present in caeca, cause inflammation and plays an important role in the transmission of ‘histomoniasis’
- *Davaiea proglotina*, *Raillietina proglottina*, *R. echinobothrida*: are the common cestodes present in the intestines that cause catarrhal or hemorrhagic enteritis with granulomatous nodules on the intestinal wall.



Ascariasis may cause obstruction of the
intestinal tract



Severe cestode infestation
(*Raillietina sp.*)



Presence of *Syngamus trachea* parasites in the trachea of an infected fowl.