
BLACK HEAD

Black head consider one of the important **protozoan parasitic diseases** which affected mainly turkeys than chickens. Its affected mainly the ceca and liver of many gallinaceous birds, although it may be found in the bursa of Fabricius, kidney, spleen and other tissues . Morbidity and death occur as a result of liver necrosis.

ETIOLOGY

The causative agent is Protozoan parasite called *Histomonas meleagridis*. This parasite has two forms, the intracellular form which is rounded or oval in shape with granular nucleus, and extracellular form which has irregular shape with pseudopods and flagella.

Susceptibility:

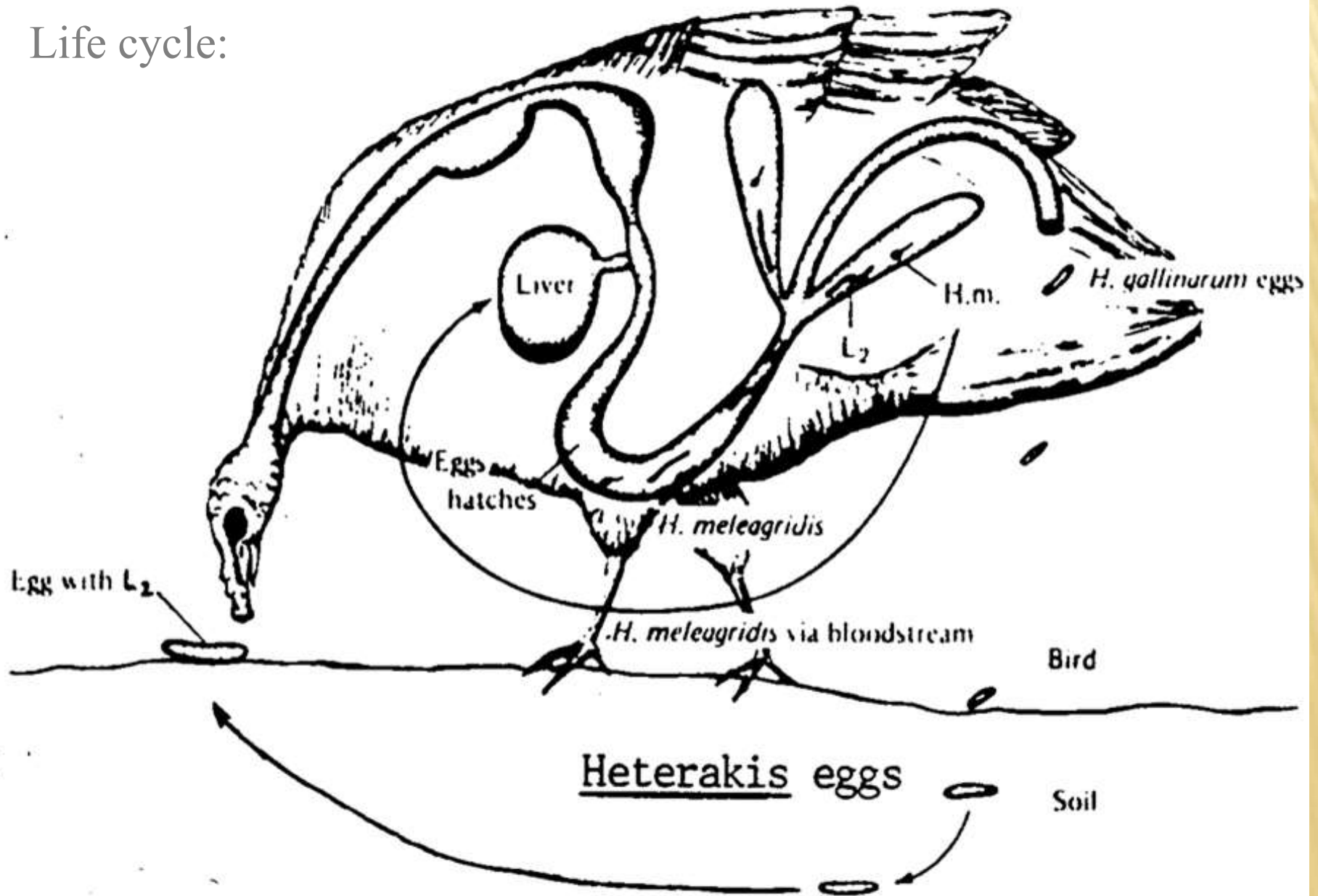
Chickens, turkeys, and peafowl are natural hosts to black head infection.

Pathogenesis and life cycle

The common cecal worm, *Heterakis gallinarum*, is the only worm known to serve as an intermediate host for blackhead. Even closely related nematodes are unable to serve as hosts. Worm ova are resistant to environmental conditions and may remain infective for 2–3 years. Most gallinaceous birds are host to the cecal worm, and wild populations may serve as reservoirs

The common earthworm has been shown to consume and harbor infective larvae of the cecal worm, thus serving as a vector. While poorly documented, arthropods such as flies, grasshoppers, sowbugs, and crickets may serve as mechanical vectors. Diagnosticians are sometimes confused by the inability to find cecal worms in birds with histomoniasis. Some of the reasons for this are that the cecal worm remains in larval form for 2–3 weeks and is very small (2–3 mm). Also, the development of histomoniasis destroys the environment for the worm, so that many are killed or expelled

Life cycle:



Life cycle:

The life cycle of this parasite is indirect, need intermediate host and may be two intermediate hosts to complete its life, when the parasite in the intestinal lumen of infected bird, the cecal worm *Heterakis gallinarum* ingested it with other intestinal content. The *Histomonas* migrate to the ovary of cecal worm and excreted with its eggs then this eggs may eaten by bird and cause infection or eaten by earth worm which also eaten by birds and cause infection.

Transmission:

1. Direct transmission by infected water, feed, droppings of infected birds and soil.
2. Indirect transmission by infected eggs of the *Heterakis gallinarum*.
3. parasite can be carried to chicken by eaten earth worms .

CLINICAL SIGNS:

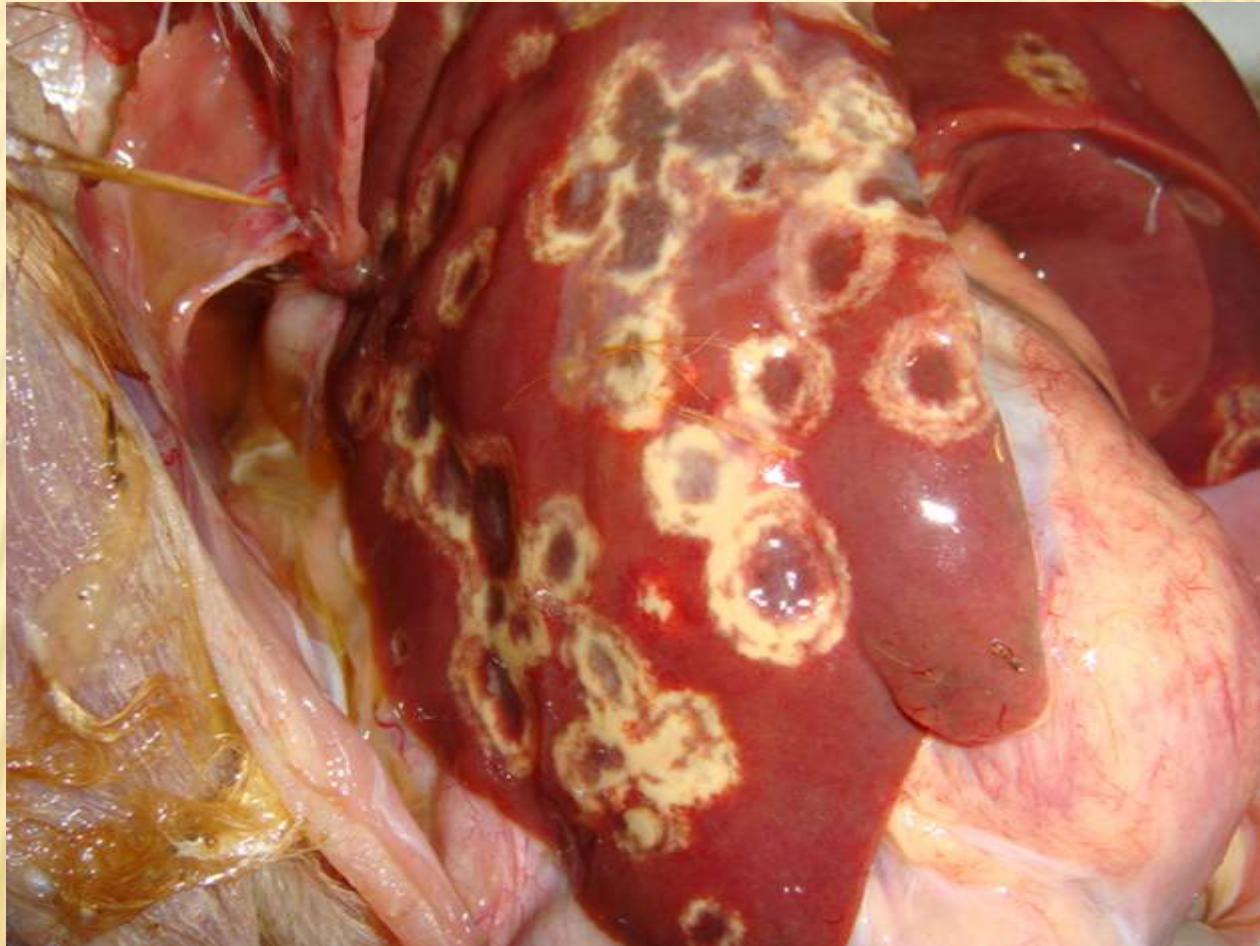
1. Affected birds are depressed and anorexia.
 2. Wings dropping and ruffled feathers.
 3. Affected birds has yellowish diarrhea.
 4. Cyanosis of the head and the bird look sleepy.
 5. Black head can cause high mortality, particularly in young turkey poults, but the disease can also affect older birds.
-

CYANOSIS OF THE HEAD AND THE BIRD LOOK SLEEPY.



P.M. lesions:-

IN LIVER PRESENT CIRCULAR NECROTIC AREAS.



THE LIVER MAY BE ENLARGED AND DISCOLORED GREEN OR TAN.



PRESENT CASEOUS OR CHEESY CORE, AND ULCERATION OF THE CECAL WALL MAY LEAD TO PERFORATION OF THE ORGAN AND CAUSE GENERALIZED PERITONITIS.



CECAL WALLS BECOME THICKENED AND HYPEREMIC.



EXCRETED THE SEROUS AND HEMORRHAGIC EXUDATE FROM THE MUCOSA OF CECA WHICH FILLS THE LUMEN AND LEAD TO DISTENDED THE WALLS.



HISTOPATHOLOGY:

1. Cecal cores are composed of sloughed epithelium, fibrin, erythrocytes, and leukocytes along with trapped cecal ingesta.
2. Infiltration of heterophils in the sub mucosal layer of the ceca.
3. In advance stages there is sloughing and ulceration of cecal mucosa.
4. Necrosis in the liver and may notice the protozoan parasites stages in hepatocyte.

DIAGNOSIS:

1. Clinical signs and lesions.
2. Identification by The organisms. The Organisms are most easily observed with phase-contrast microscopy \ with fresh Specimens. We can ensurance the diagnosis by smears from cecal content to see the parasite and the disease should by differentiated from Coccidiosis and ulcerative enteritis.

TREATMENT:

- Nitroamidazol with feed in concentration

0.015-0.02.

- Nitarson with feed in concentration 0.0187.

CONTROL

Good hygiene, avoid mixing chickens with turkeys and control earth worms is important.