



Tikrit University
College of Veterinary Medicine

Hemorrhagic enteritis (HE)

Subject name: Poultry Diseases

Subject year:2024-2025

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Lecturers link



Hemorrhagic enteritis (HE)

Acute viral disease of turkeys 4 weeks of age and older characterized by depression, bloody droppings, and death. Clinical disease usually persists in affected flocks for 7–10 days. Due however to the immunosuppressive nature of the agent, secondary bacterial infections may extend the course of illness and mortality for an additional 2–3 weeks.

Public Health Significance:

Not known to cause illness in humans nor has evidence of seroconversion been documented.

Etiology:

HE virus (HEV) is a member of the family Adenoviridae, originally assigned to the genus Aviadenovirus and designated as avian adenovirus group (type) II

Transmission:

-Horizontally.

Susceptible animals:

-Turkeys

Morbidity & Mortality:

Morbidity about 100% with average mortality of 10–15%.

Clinical Signs:

- 1- Rapid progression of clinical signs over a 24 hr period.
- 2- Depression, bloody droppings, and death.
- 3- Feces containing frank blood are frequently present on the skin and feathers surrounding the vents of moribund and dead birds.
- 4- Signs of disease tend to subside within 6–10 days of the appearance of bloody droppings.

Gross Lesions:-

- 1- Dead poults routinely appear pale due to blood loss but are often in good flesh and have feed in their crops.
- 2- The small intestine is commonly distended, grossly discolored, and filled with bloody contents.
- 3- The intestinal mucosa is congested and in some individuals, covered with a yellow fibrinonecrotic membrane.
- 4- Lesions are usually more pronounced in the proximal small intestine (duodenal loop) but can extend distally in severe cases.
- 5- Splens of infected birds are characteristically enlarged, friable, and mottled in appearance.
- 6- Lungs may be congested, but other organs are generally pale.

7- Enlarged livers and petechial hemorrhages in various tissues of dead poult.

Microscopic Lesions:

1- Splenic lesions present at death include hyperplasia of white pulp and lymphoid necrosis. Intranuclear inclusions can be found within mononuclear cells i.e., macrophages and lymphocytes.

2- Proliferation of white pulp surrounding splenic ellipsoids. Typical lesions in the gastrointestinal tract include severe congestion of intestinal mucosa, degeneration and sloughing of villus epithelium, and hemorrhage in the villus tips.

3- Cells containing intranuclear inclusions can be seen in the liver, bone marrow, peripheral blood leukocytes, lung, pancreas, brain, and renal tubular epithelium.

Immunity:

Active:

Antibodies against HEV may be detected as early as 3 DPI by ELISA, Such immunity appears to be long lasting if not life-long.

Passive:

Maternal antibody can provide protection from clinical HE for up to 6 weeks post-hatch and has been reported to interfere with vaccination for up to 5 weeks.

Diagnosis:

1- Isolation and Identification of Causative Agent.

2- Serology (AGID using known positive splenic material diluted 1:1 v/v with PBS as the test antigen).

Differential Diagnosis:

1- Reticuloendotheliosis or lymphoproliferative Disease (for enlarged mottled spleen).

2- Bacterial septicemias (Enlarged, congested spleens).

Vaccination:

live, water-administered vaccines of 6- week-old turkeys inoculated PO or IV with HEV avirulent I (Domermuth strain) or HEV avirulent II.

Intervention Strategies:

1- Management Procedures (disinfection with 0.0086% sodium hypochlorite solution or other common viricidal agents plus drying at 25°C for 1 week)

2- Vaccination.