

INFECTIOUS BURSAL DISEASE



This disease
is known to
occur in
Afghanistan.



1. Definition

Infectious bursal disease (IBD), also known as Gumboro disease, is an acute viral disease of growing chickens causing extensive destruction of the Bursa of Fabricius, diarrhea, and subsequent immunosuppression.

2. Etiology

The causative agent, IBD virus, is a member of the Birnavirus Family. It is highly resistant in the environment. There are several strains and they vary in virulence.

3. Transmission

Environmental contamination is the major means of transmission. Virus is shed into the environment from actively infected birds and persists in the litter, on equipment, and fomites. Spread between flocks happens through fomites.

4. Species affected

Only chickens are naturally infected. Egg laying breeds tend to be more susceptible. Susceptibility is greatest at the time of maximal development of the Bursa of Fabricius, 3-15 weeks of age.

5. Clinical signs

The incubation period is 3-4 days. Morbidity is 10-80%. There is depression and anorexia, with watery diarrhea that may be whitish and mucoid. Bursa is palpably enlarged initially, but as disease progresses,

it becomes small. Animals are incoordinated and may be recumbent. Deaths begin to occur at about the third day of clinical illness. Mortality is usually around 10% but may be as high as 30%. One of the major clinical problems with IBD is that they remain immunosuppressed and so are less able to resist infection with other viruses, and also are less able to respond effectively to vaccination.

6. Pathologic findings

The Bursa of Fabricius is the primary site of viral replication, and most characteristic changes are seen here. In acute cases, it is markedly edematous and swollen, to 2-3 times normal size. As the disease progresses, it may be hemorrhagic or atrophic, with a gelatinous, yellow exudates on the surface. Carcass is dehydrated, with dark appearing musculature. Spleen is usually enlarged. Liver may be swollen and friable. Urates are present in the kidney, as a result of the dehydration.

7. Diagnosis

History, clinical signs, and postmortem lesions are often enough to make a diagnosis of IBD. Laboratory testing involves isolation of the virus, or agar gel immunodiffusion test for serology. Differential diagnoses include: infectious bronchitis, Marek's disease, Newcastle disease, highly pathogenic avian influenza.

8. Treatment

There is no effective treatment for IBD. A change to low energy, low protein diet is recommended until the disease outbreak subsides.

9. Prevention and Control

Both modified live and inactivated vaccines exist for IBD and have good efficacy. Critical period for exposure is during the time when maternal immunity wanes and so vaccination should be targeted then. Strict biosecurity will prevent entry of viruses. Disinfection after an outbreak is essential.