

Infectious Bursal Disease (IBD)

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Etiology

Infectious bursal disease (IBD) is caused by a double-stranded RNA virus of the *Birnaviridae* family, commonly known as infectious bursal disease virus (IBDV). Similarly to other viruses, there are several strains that vary in their virulence. IBDV strains are classified into two serotypes, one of which is infectious (serotype 1), and the other is not (serotype 2).

IBDV is very resistant to changes in temperature and pH, as well as some disinfectants.

Epidemiology and Transmission

IBD caused by serotype 1 of IBDV has been reported globally, with chickens being the only species to develop clinical signs of the infection. High-density chicken producing areas are at a higher risk of infection. There has been no cases of clinical IBD caused by serotype 2.

There is no evidence to suggest vertical transmission of the virus. However, horizontal transmission of IBDV is readily occurring in most barns due to the highly contagious nature of the virus, and its resistance to temperature, pH, and some disinfection practices. IBDV is transmitted by direct contact with contaminated materials (e.g. boots, clothes, equipment), by ingestion of contaminated feces or litter, or by inhalation of the virus in aerosol particles.

Clinical signs

There are few, if any, clinical signs of IBD. Chickens age 3 to 6 weeks are most likely to show clinical signs. Post-mortem examination of the bursa of Fabricius is needed to diagnose IBD. Potential clinical signs include:

- Lethargy
- Diarrhea, dehydration
- Immunosuppression

- Increased mortality

Treatment

There is no specific treatment for IBD. Due to the virus' immunosuppressive effects, birds should be monitored for secondary infections. Prevention and surveillance are crucial in managing IBD.

Prevention

There are several vaccines available for the prevention of IBD in poultry. Vaccination of broiler breeders is important, as it prevents infection in breeders but also provides offspring with maternal antibodies against IBDV to help protect the chicks in their first few days of life. However, these maternal antibodies can neutralize the effects of some vaccines, so it is important to work with a veterinarian to ensure you are applying the correct vaccine at the right time.

Some vaccines are more potent than others depending on the strain of IBDV it provides protection against. There are three types of IBD vaccines available:

	Live	Vectored	Immune-complex
What is it	A vaccine containing IBDV. May be attenuated (i.e. reduce virulence) to reduce adverse effects.	A vaccine containing a modified virus containing the genetic code for antigens needed to provide protection against IBDV.	A live vaccine combined with an antibody for IBDV. Made by combining live vaccine with serum from hyperimmune chickens.
When to give	Hatchery Field boost	Hatchery	Hatchery
Interfere with maternal antibodies?	Yes	No	No
Products	SVS-510 Univax Plus Bursine-2 89/03	Vaxxitek Vectormune-IBD Poultvac Procerta Innovax ILT-IBD	Bursaplex Gumbohatch

It is important to work with a veterinarian when choosing a bursal vaccine program to ensure you are providing the best protection for your birds without causing unnecessary bursal damage. If you do not currently have a bursal vaccine program, it is recommended to have bloodwork done twice a year and after a poor-performing flock to monitor the IBD status in the barn.

Resources

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