



CHARACTERISATION OF INFECTIOUS BURSAL DISEASE VIRUS AND DETERMINATION OF POSSIBLE VACCINE STRAIN(S) IN KENYA

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Definition and Aetiology

- Infectious bursal disease;
 - ✚ highly contagious and
 - ✚ immunosuppressive
 - ✚ disease of growing chickens
(Jackwood *et al.*, 2009)
 - ✚ Morbidity (10 – 20%) and mortality (5-50%) vary, depending on the pathogenicity IBDV strain and susceptibility of the flock; both can reach up to 100% (Lukert and Saif, 2003).
- chicken viral disease of economic importance.

Aetiology cont'd

- IBDV is a dsRNA virus
- Genus; Avibirnavirus
- Family; Birnaviridae.
- Replicates in developing B-lymphoid cells
- Results in
 - ✚ destruction of B lymphoid cells
 - ✚ Immunosuppression
 - ✚ vaccination failures
 - ✚ susceptibility to other infections and diseases

Serotypes

- Two distinct serotypes of the virus; Serotype 1 and 2.
- Neither cross-neutralize *in vitro* nor cross protect *in vivo*
- Serotype 1 viruses: Pathogenic to chickens.
- Serotype 2 viruses: non-pathogenic to chickens
- 2 antigenic types among the serotype 1 viruses
 - ❖ classic
 - ❖ variant antigenic types.
- Serotype 1 viruses further divided into 6 subtypes by cross neutralization tests (Jackwood and Saif, 1987)

Pathotypes

- Serotype 1 viruses categorized into 4 groups based on pathogenicity:
 - ✚ Classical strains (standard)
 - ✚ Variants
 - ✚ Attenuated strains
 - ✚ Very virulent strains (Hypervirulent)
(van den Berg, 2000)

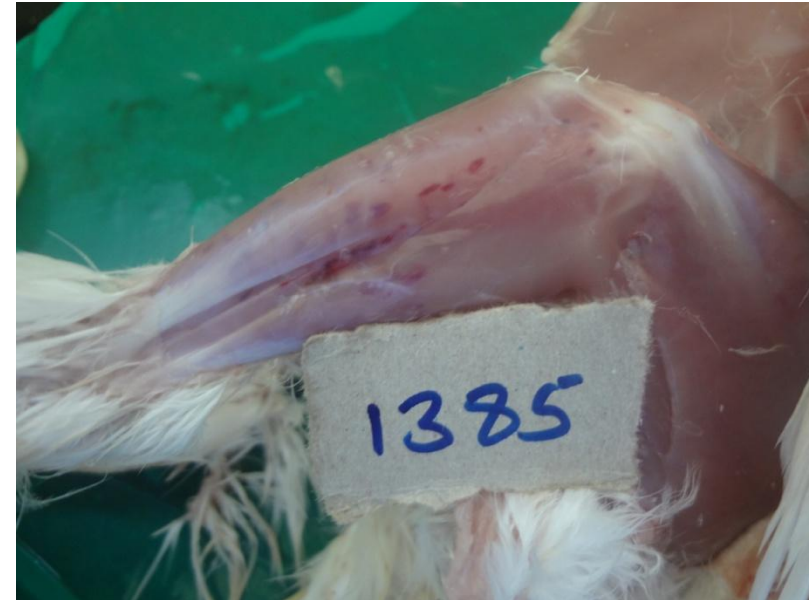
Gumboro Disease in Kenya

- First case (1991) reported in Kenyan coast, disease spread to all parts in the country (Mbuthia and Karaba, 2000).
- Both killed and live vaccines available in the country for control of IBD
- All the vaccines are imported
- Vaccination schedules differ, recommended by:- breeders, vaccine companies, millers, agrovets)

Gumboro Disease cont'd



Gumboro Disease cont'd



Gumboro Disease cont'd



Lesions on bursa of Fabricius



Lesions on Bursa of Fabricius and Kidneys