



Tikrit University  
College of Veterinary Medicine

# Bluetongue

Subject name: infectious diseases

Subject year: 4<sup>th</sup> stage

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SCAN ME

Lecturers link

# **Bluetongue**

*Sore Muzzle,  
Pseudo Foot-and-Mouth Disease,  
Muzzle Disease*

## **The Organism**

### Bluetongue Virus

- Family Reoviridae
  - Genus *Orbivirus*
- 24 serotypes worldwide
  - 6 serotypes isolated in the U.S.
- Non-contagious
- Insect-borne viral disease
- Ruminants: Primary host is sheep
- Others infected: Cattle, goats, deer

## **Epidemiology**

### Morbidity/Mortality:

- Sheep
  - Severity of disease varies
    - Breed
    - Strain of virus
    - Environmental stress
  - Morbidity
    - As high as 100%
  - Mortality
    - Usually 0 to 30%
- Cattle, goats
  - Morbidity: up to 5%
  - Death is rare
- Deer, antelope
  - Severe infection
  - Morbidity Up to 100%
  - Mortality 80 to 90%

### Transmission

- Biting midges
  - Genus *Culicoides*
- Ticks, sheep keds
- In utero
- Mechanical
- Venereal

## **Clinical Signs:**

- **Sheep**
- Incubation period: 5 to 10 days
- Most asymptomatic
- Oral erosions and ulcerations
- Tongue
  - Swollen, protruding
  - Cyanotic= “blue-tongue”
- Reproductive failure
- Coronitis
  - Inflammation of coronary band
- Lameness
  - Painful hooves
- **Cattle and goats**
  - Usually subclinical
  - Erosions, crusts around nose and teats
  - Coronitis
  - Reproductive failure
- **Antelope and deer**
  - Hemorrhage, death

## **Post Mortem Lesions**

- Sheep
  - Face and ears edematous
  - crusty exudate on nostrils
  - Coronary bands hyperemic
  - Internal hemorrhaging
  - Hydranencephaly, cerebellar dysplasia
- Cattle
  - Skin: edematous, ulcerated, dry, thick folds
  - Mouth: vesicles, ulcers, necrosis

## Differential Diagnosis

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| 1-Foot-and-mouth disease            | 8- Parainfluenza-3 infection        |
| 2-Vesicular stomatitis              | 9-Sheep pox                         |
| 3-Peste de petits ruminants         | 10-Foot rot                         |
| 4-Malignant catarrhal fever         | 11-Actinobacillosis                 |
| 5-Bovine virus diarrhea             | 12- <i>Oestrus ovis</i> infestation |
| 6-Contagious pustular dermatitis    | 13-Plant photosensitization         |
| 7-Infectious bovine rhinotracheitis |                                     |

## Diagnosis

- Clinical signs
- History
  - Insect activity
  - Wasting or foot rot
- Laboratory
  - Virus isolation
  - ELISA, IFA, VN
  - PCR
  - Serology, complement fixation
  - Examination of proteins

## Treatment

- No specific treatment
- Supportive therapy
  - Protection from the elements
  - Fluids and electrolytes
  - Antibiotics
- Control of vectors by insecticide
  - Reduce transmission
  - Protect susceptible animals

## Disinfection

- Cleaning the premises
- Insect control
  - Organophosphates

## Vaccination

- Available
  - Serotype specific
- Adverse effects
  - Fetal malformations
  - Recombination

New strains of virus