

## **Dourine (*Covering Disease*)**

Dourine is a fatal parasitic venereal disease of equines caused by the flagellate protozoan *Trypanosoma equiperdum*. It is a slow and progressive disease that usually ending in death.

### **Epidemiology**

- Dourine once widespread. Now eradicated from many countries
- Endemic: Parts of Africa and Asia, including Russia
- Outbreaks: Middle East & Europe
- Species Affected are Horses, donkeys, and mules
- Asymptomatic carriers (Male donkeys)

**Transmission:** Transmitted during breeding

1. Stallion-to-mare most common. Occasional mare-to-stallion
  - Found in: Vaginal secretions, Seminal fluid and Exudate from the penis
2. Parasites may temporarily disappear. More common in late disease
3. Mare-to-foal transmission:
  - Before birth
  - Through milk or mucous membranes
4. Sexually immature animals: Can transmit organism at maturation

### **Morbidity and Mortality**

- Morbidity variable
  - Chronic, mild disease
  - Acute, severe disease
- Mortality
  - Untreated cases: 50 to 70%
  - Endemic areas (Treatment may result in inapparent carriers)

### **Clinical signs**

Incubation ranged from weeks to years. Signs may wax and wane and can occur several times before animal dies or recovers

- Genital edema
- Mucopurulent discharge
- Vulvitis, vaginitis, polyuria
- Raised and thickened patches on vaginal mucosa
- Swollen membranes. Can protrude through vulva
- Depigmentation in genital region, perineum, udder
- Abortion
- Edema of prepuce and glans penis may spread to the scrotum, perineum, ventral abdomen, and thorax.

- **Leukodermic patches “Silver dollar plaques”**
- Neurological signs
- Develop after genital edema, or weeks to months later. Eventual paralysis
  - Other signs
- Conjunctivitis, anemia, emaciation

### Diagnosis

- Clinical diagnosis
  - Genital edema, neurological signs, “silver dollar plaques”
- Serology + clinical signs
  - Complement fixation
    - Prescribed test for international trade
    - Used successfully in eradication programs
    - False positives in uninfected animals
  - ELISA, radioimmunoassay
  - Counter immunoelectrophoresis
  - Agar gel immunodiffusion

Cross-reactions may occur

### Differential Diagnosis

- Coital exanthema
- Surra, anthrax
- Equine viral arteritis
- Equine infectious anemia
- Contagious equine metritis

### Treatment

Successful treatment reported in some endemic regions Trypanocidal drugs

1. Berenil (diminazene) at 7 mg/kg BW as a 5% solution injected IM, with a second injection of half the dose 24 hours later.
2. suramin (10 mg/kg N for two to three treatments at weekly intervals).
3. quinapyramine sulfate (3-5 mg/kg in divided doses injected SC).
  - No vaccine available

### Prevention and Control

- IMMEDIATELY notify authorities
- New animals: Quarantine, Serological testing and Cease breeding if detected
- Herd eradication
  - Infected animals euthanized
  - Stallions castrated
- *T. equiperdum* cannot survive outside a living organism