

## **ACTI NOBACILLOSIS (WOODEN TONGUE)**

### **ETIOLOGY**

Actinobacillus lignieresii, Actinobacillosis is a specific infectious disease caused by a gram-negative coccibacilli belonging to the genus Actinobacillus. characterised by the presence of granulomas with pus containing small, hard yellow to white granules. Wooden tongue occurs almost entirely in soft tissue. The tongue and lymph nodes of the head are commonly involved.

### **Epidemiology:**

- 1- Actinobacillus ligneresii is inhabitant of oral cavity and rumen of ruminant.
- 2- Infection of soft tissues due to damage of oral mucosa in cattle, infection through ulcerating or penetrating lesions to tongue.
- 3- In cattle world wide, sporadic, in copper defficient area.
- 4- **Animal susceptibility:** Cattle, buffaloes (mature and of dairy breed are more susceptible), sheep and goats.
- 5- **Source of infection:** Pus or infected discharges are the main source of infection.
- 6- **Mode of transmission:** The disease is transmitted by ingestion of contaminated food and water with the presence of oral mucosa injury (wounds or abrasions).

### **PATHOGENESIS**

- 1- Local infection by the organism causes an acute inflammatory reaction in the tongue and the subsequent development of granulomatous lesions in which necrosis and suppuration occur, often with the discharge of pus to the exterior. Spread to regional lymph nodes is usual.

- 2- Lingual involvement in cattle causes interference with prehension and mastication due to acute inflammation in the early stages and distortion of the tongue at a later stage.

### ***Clinical finding***

#### **Cattle:**

- 1- unable to eat for 48 hrs.
- 2- Excessive salivation, gentle chewing.
- 3- On examination tongue is swollen and hard specially at base.
- 4- Manipulation of tongue cause pain.
- 5- Nodules and ulcers are present on side of tongue.
- 6- In later stages, when acute inflammation is replaced by fibrous tissue, tongue become shrunken and immobile, interfere with prehension.
- 7- Lymphadenitis is common. Enlargement of submaxillary and parotid nodes.
- 8- Local, firm swellings develop then rupture with discharge of thin non odorous pus, healing is slow.
- 9- An usual occurrence of cutaneous actinobacillosis in cattle lesions in mouth, not on tongue, on head, chest wall, flanks and thighs and large ulcers with exuded yellow pus, or nodules (up to 15 cm diameter) on lymphatics, Lymph nodes are involved and cold and painless.

#### ***II- Sheep:***

- 1- Tongue is not involved usually.
- 2- Lesions up to 8 cm in diameter in lower jaw, face and nose or in skin fold from lower jaw to sternum. They may be superficial or deep and extend to cranial or cervical lymph nodes.

- 3- Viscid, yellow green pus containing granules is discharged through small openings.
- 4- Extensive lesions cause fibrous tissue formation.
- 5- Thickening and scabbiness of lips.
- 6- Nasal cavities (bilateral nasal discharge).
- 7- Difficulty in eating and may die of starvation.
- 8- Actinobacillus ligneresit as cause of mastitis in ewes.

### ***CLINICAL PATHOLOGY***

Purulent discharges commonly contain 'sulfur' bodies which are granular in nature and, on microscopic examination, consist of club-like rosettes with a central mass of bacteria.

### ***Differential diagnosis***

- 1- Foreign bodies in the mouth
- 2- Rabies
- 3- Esophageal obstruction
- 4- Tuberculosis
- 5- Cutaneous lymphosarcoma

### ***TREATMENT***

- 1- Surgical treatment necessary in actinobacillosis then actinomycosis.
- 2- The sulfonamides, penicillin, streptomycin, and the broad-spectrum antibiotics are also used. Streptomycin, given by intramuscular injection (5 g/day for 3 days)
- 3- Oral or I/V of iodides are used. Potassium iodide 6 - 10 gm/day for 7 - 10 days orally to cattle.
- 4- Sodium iodide 1 gm/12 kg.Bw I/V. as 10 % solution in one dose to cattle and sheep.

