

Lumpy Jaw and Woody Tongue

A PowerPage Presented By



“Lumpy Jaw” and “Woody Tongue” are names that describe the clinical presentation of *Actinomyces* and *Actinobacillosis* which appear most commonly in cattle although pigs, horses, and other species can be affected as well. These conditions frequently show up on board exams, and it is common to get aspects of the two diseases mixed up due to signs and agents that sound similar. This PowerPage reviews the important features of these diseases and key differences that will help you to pick the right answer if presented with a case on your exam.

Key Points

- Lumpy Jaw - *Actinomyces bovis*- Gram positive rods
- Woody Tongue - *Actinobacillus ligniersii* - Gram negative coccibacilli
- Both enter tissues through epithelial damage from coarse or poor-quality feeds or sharp objects

Lumpy Jaw (*Actinomyces bovis*)

Etiology and Transmission

- “Lumpy Jaw” specifically indicates infection with *A. bovis*, although other causes of swollen jaws exist (see below)
 - Despite the name “Actinomyces”, this is a bacteria
 - Gram positive rod that can branch or grow as filaments
 - *A. bovis* is a common inhabitant of the mouths of healthy cattle
 - If sharp feed or objects puncture the oral lining, the bacteria invade deeper to establish infection and cause swelling of mandible or maxilla.
 - Erupting teeth in young animals can present a route of entry

Clinical signs and Differential Diagnoses

- **Hard, immovable swelling of the jaw bones**
 - Often slowly developing over weeks
 - May be painful
 - Later, may develop thick discharge with small granular particles, sometimes called **sulfur granules**
 - Gradual loss of body condition due to painful swallowing and chewing
- Ways to distinguish from other lumps on face
 - Abscesses - Can be caused by grass seeds and cause similar lumps on face but rarely occur in bone
 - Woody tongue - Usually only affects the tongue (see below)
 - Bottle jaw - Soft swelling underneath the jaw; has many potential causes
 - Neoplasia - Rare to see in bones of skull but may occur



- Foreign body - Usually identified by close inspection

Treatment

- Treatment is often only successful if started early in disease because of difficulty in achieving adequate antibiotic penetration into bone over a sustained course
- Iodide solutions by mouth or intravenously are the treatment of choice
 - Although IV may be more effective, it is often not recommended due to food safety concerns
 - IV penicillins may be an alternative if started early
- Many animals are culled due to poor prognosis

Woody Tongue (*Actinobacillus ligniersii*)

Etiology and Transmission

- **Memory Aid** - Pronounced “lick-neer-see-i”... you “lick” with your tongue
- Similarly transmitted through epithelial damage from scabrous feed
- Considered a normal inhabitant of rumen of sheep and cattle
- Survives days in forage; not considered highly contagious

Clinical Signs and Diagnosis

- Characteristic lesion is **granuloma of the tongue with purulent discharge**
- Also can affect lymph nodes of head and neck
- Sudden onset of
 - Inability to eat/drink
 - Ptyalism
 - Loss of body condition, in severe cases starvation and dehydration
 - Painful, swollen tongue with nodules/ulcers
- More chronically, fibrous tissue is deposited and tongue becomes firm, shrunken, and immobile (“Woody”)
- May develop local lymphadenopathy +/- purulent discharge with granules
- Diagnosis can be confirmed by cytology of purulent discharge showing colonies of Gram-negative rod bacteria within the granules. This can distinguish disease from:
 - *Staphylococci*, *Streptococci*, *Corynebacterium pyogenes* which are all Gram-positive

Treatment

- **Readily treated** (contrast with Lumpy Jaw)
- Surgical debridement and flushing with iodide
- Alternatively, oral or injectable iodide can stop acute signs within days
- Other antibiotic options: Streptomycin, tetracyclines, tilimicosin

