

# Actinomycosis

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**Synonyms:** Lumpy jaw

**Causative Agent:** Actinomyces bovis , gram+ve, rod shaped anaerobe, pleomorphic.

In the lesions branching forms (ray fungus).

**Route of Infection:** Infection is usually through wounds in the oral cavity.

## Pathogenesis

The basic is a granuloma similar to that of actinobacillosis with a few minor differences



In Actinomycosis the Sulphur granules are far bigger and the central part containing the organisms stains gram positive.



Cattle are mostly affected. In swine, besides other tissues, mammary gland is also affected. Infection occurring through wounds inflicted by the teeth of suckling piglets.



In horses Actinomyces bovis is supposed to cause poll evil and fisticulous withers.



Actinomyces in cats and dogs – acute form.

## Lesions

- In cattle, the most common lesion is the lumpy jaw – A suppurating osteomyelitis of the mandible.
- Infection occurs by direct extension from the gums & peridontium to periosteum directly AM- Periosteosis form.
- Medullar cavity fills with granulation tissue softening and liquifaction occur and the pus gradually affects the cortex rarefying it and in which many fistulae form.
- Then Actinomyces granulation tissue invade newborn destroying it &forming cavities and fistulae.
  
- Whole bone structure & architecture is destroyed.
- In udder – notice hematogenous spread of infection \*Miliary nodules form as in TB.
- Lungs – Hematogenous infection miliary nodules as in TB
- Lymph glands –neighboring lymph glands may be affected
- Bone -lesions are very painful.

## Preventing normal prehension and mastication.

- The animal may ultimately die of starvation.
- Infection of the esophagus and fore stomach gives rise to impaired digestion and diarrhea.

## Diagnosis

Based on symptoms, examination of stained pus smear, histopathological examination of lesions.

