

Caseous lymphadenitis

Ovine caseous lymphadenitis

(pseudotuberculosis)

- It is a **chronic** disease of sheep and goats
- occurs as an **inapparent infection** (incidental finding in slaughtered animals).
- characterized by **abscesses** of lymph nodes (prescapular and prefemoral)
- may become **generalized** with abscesses in many different lymph nodes as well as the lungs, liver, kidneys, and brain "**thin ewe syndrome**".

Cause

Corynebacterium pseudotuberculosis (*C. ovis*)

- gram-positive diphtheroid bacillus
- produces an **exotoxin** (a **phospholipase D**), which facilitates the spread of infection from the primary site
- bears toxic **surface lipid**, which allows the organism to survive within macrophages.
- ~~*Corynebacterium pseudotuberculosis*~~ is also the cause of ulcerative lymphangitis in cattle and horses, and pectoral abscesses in horses.

Clinical Signs

- **Enlargement of one or more superficial lymph nodes (prescapular, inguinal, mandibular, parotid).**
- **Progression to visceral disease is usually slow and typically occurs in older animals; often there are no specific clinical signs in sheep affected with the visceral form of CLA.**
- **Mastitis occasionally occurs in sheep and is often observed in goats.**
- **"Thin ewe syndrome" is often associated with internal abscesses that contain *C. pseudotuberculosis* (and other bacteria).**

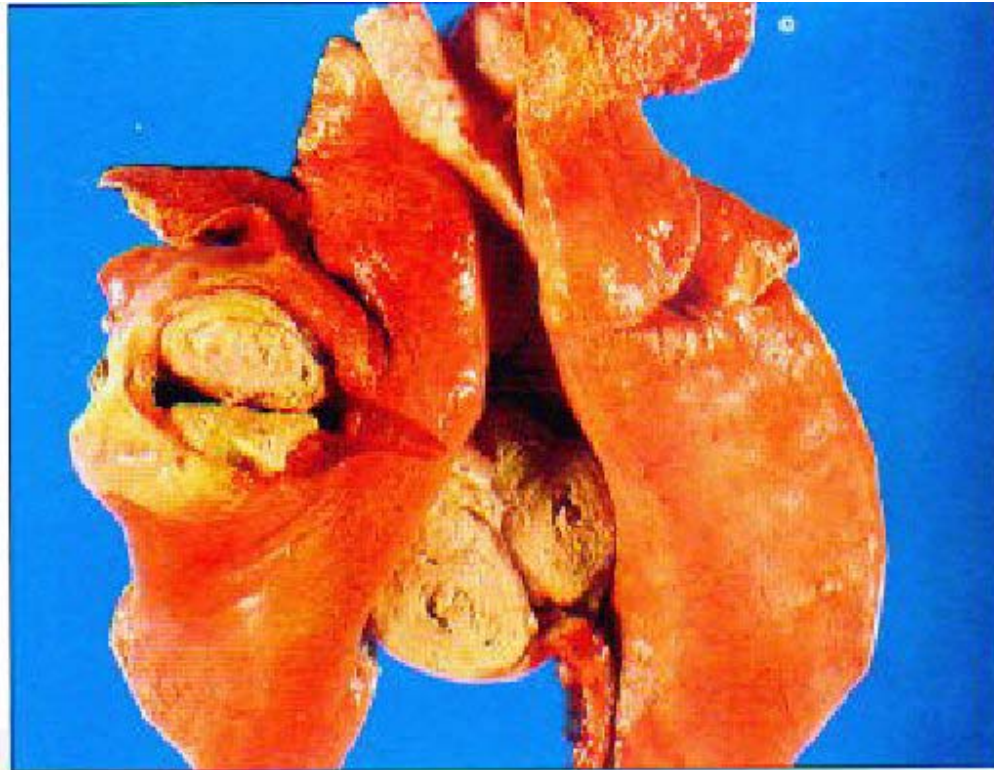
Gross Findings

- **In sheep, lymph nodes are greatly enlarged and consist of a central core of thick creamy necrotic material that is greenish-white and gritty (encapsulated abscess with pus of a distinct green color and caseous or caseopurulent consistency).**
- **Older lesions in sheep are characterized by concentrically lamellated layers of fibrous connective tissue with alternating zones of caseous, friable material ("onion skin") that is entirely bounded by a thick fibrous capsule.**
- **In goats, exudate is less dry and is not concentrically laminated or mineralized. The abscesses in goats are usually more numerous and frequently involve lymph nodes of the head and neck.**

Microscopic Findings

- **Caseous necrosis of lymph nodes is the predominant feature.**
- **The initial lymph node lesion begins as lymphadenitis with the formation of multiple microscopic abscesses in the cortex; eosinophils may predominate initially.**
- **Microabscesses rapidly coalesce, forming areas of caseation.**
- **Abscesses become rapidly encapsulated by fibrous connective tissue, and the lymph node enlarges.**

Gross picture



Lung (Sheep): Caseous lymphadenitis
Chronic pulmonary abscesses

Gross picture



Caseous lymphadenitis
Pseudotuberculosis

onion-like appearance of the lymph nodes

Gross picture



Lymph node (Sheep): Caseous lymphadenitis
Concentric rings of purulent debris and enlargement of the nod