



**BOVINE**

**TUBERCULOSIS**

# ***BOVINE TUBERCULOSIS***

Lesions are generally on the lung and young animals.

## **1. FIRST INFECTION PERIOD**

### **Primary focus**

It is often located under the pleura in the diaphragmatic lobe.

From peas to fist size; caseification, later calcified and encapsulated in the form of tubercle.

It can also be found around milier, resorptive tubers.

## Microscopical Findings

In the middle, the secondary caseicization surrounding the necrosis was surrounded by lymphocytes. Histiocytes, epithelioid histiocytes, Langhans giant cells are few. Caseification necrosis is subsequently calcified.

All these regions are surrounded by capsules of connective tissue cells (fibrosis, fibroblasts).

## Regional Lymph Nodes

It has increased by volume (swollen); In the radiar style, it includes TB lesions.

Or it is of normal size and contains small caseification necrosis and calcification areas.

# EARLY GENERALISATION

## a. Hematogenous acute (rapid) miliary tuberculosis lesions

Lesions are productive.

It is more common in the lungs where there is little air flow.

A large number of miliary; previously, glass-like transparent, dull yellowish tubercles are seen later

Microscopic appearance of the epithelioid cells are intense tubercle.

Lymph necrosis is also associated with severe caseation necrosis or TB lesions with calcification.

## b. Chronic (slow, delayed) generalisation

It is also encountered with productive lesions (tubercles).

However, bacteremia is occasionally; different types of organs, more precisely the size of the different, miliary and nodular tubercles develops

In the structure of such lesions, epithelioid histiocytes, caseation necrosis and calcification take the first place.

Lymph nodes are as before.

### c. Acinous-lobular (primary) caseified pneumonia

Young people are frequent. The formation is due to resistivity (endurance) and to the result of a hyperactive (allergic to allergic) reaction.

Exudative changes are predominant in the acinus (in the alveoli where the basal bronchis are terminated) or in the progression of the primary colonization of the lobes by necrosis.

Epitheloid is common, it does not include cells such as histiocytes and giant cells.

Lymph nodes are caseification necrosis.



## **POSTPRIMARY INFECTION ! CHRONIC ORGAN TUBERCULOSIS !**

Reinfection develops as a result of hyperinfection, with the help of an allergic (hyperergic) reaction.

Tuberculosis of chronic organ is known as «open organ tuberculosis» in humans; It is the third period of tuberculosis in humans.



# POSTPRIMARY INFECTION ! CHRONIC ORGAN TUBERCULOSIS !

## Character of lesions

### 1. Acinose (nodous tuberculosis lesions (foyers))

The lesion is located in the caudal upper part of the diaphragmatic region.

First, acinous foyers are formed.

Exudate accumulates in the alveoli where terminal bronches terminate and these areas are prominent in the appearance of yellowish cloverleaf.

The nodous foyers, on the other hand, are made up of large bulging nodules by spreading them. In addition, they are combined with lobar areas.

## **2. It spreads through canals.**

The interior of the bronchi is full of bulky masses.

## **3. Caverns are formed.**

There are two types of cavern formation.

### **a. Bronchiectatic cavern**

Bronchial expansion due to the excavation of the bronchi, etc. Bronchiectasis suffers Bron. When the exudate is emptied, the cavern is formed in the irregular hollow shape. It is noted that they were surrounded by a bronchial wall. Such caverns are typical of cattle in particular.

### **b. Melting caverns**

It is typical in humans. It forms in the tissue with the melting of Acinar-nodular foci. Causes bleeding.



4. Bronch and trachea, pharynx, miler or fungous tubercles (nodes) in the mucosa of the larynx and **ulcers** are formed by opening them.

5. There are **no changes in this type of lymph nodes in the lymph nodes.** If any, belong to previous spread.

# LATE GENERALIZATION

1. Glopian (rapidly progressing) acinous nodose caseified tuberculosis
2. Lobular caseified pneumonia
3. Milier tuberculosis

1. Glopian (rapidly progressing) acinous nodular caseified tuberculosis

Lesions are distributed to all lobes.

Milier is a large number of different sizes, ranging from submucous asinose to acinous-nodose; It is characterized by exudative tuberculosis lesions that are not surrounded by connective tissue.

Its microscopic appearance is exudative.

The lung is also emphysematous and increased in volume.

The lymph nodes of the region are very bulging, yellowish and moist, and they are adorned with widespread excavation areas.

In addition to this, tuberculars of old, productive character with limited, gray-yellowish color and most of the limestones belonging to the first infection period are also noteworthy.

Other organs, especially in the renal cortex, are found to be acute and submissive tubercles.

## 2. Lobular caseified pneumonia

### Lungs:

Lobular style; a wide variety of various sizes; lobular style with dry, dull yellow areas.

Radial finger-shaped areas are also found especially in the lungs containing air.

The sections are blurry yellowish and contain dot-like bleedings.

The region is similar to the lymph nodes.

There are also fresh milier tubercles in the liver and kidneys.

### **3. Milier tuberculosis**

It is the more common type of tuberculosis after birth or long-lasting transplantations. It is similar to this type of tuberculosis in humans.

The typical acute milier is characterized by tuberculosis.

It spreads in the lungs in many, small, glassy landscapes; especially localized in areas with low air intake.

Microscopic structure is mostly epitheloid cell tubercle structure. Caseification necrosis is uncommon.

The lungs are generally pale pink-red; partially empirical and partly edematous.

Lymph nodules also have areas prone to caseification.