

Tuberculosis

Etiology :

Mycobacterium bovis-----caused tuberculosis in cattle

Epidemiology:

1-all species include human and age group are susceptible to *M. Bovis* ,cattle,goat and pigs.

2- sheep and horse are resistance .

3- infected cattle are the main source of infection for other cattle .

4- organism excreted in the exhaled air , in sputum, feces (from intestinal lesion and swallowed sputum from pulmonary lesion).milk, urine ,vaginal and uterine discharge and discharge from open peripheral lymph node ,nasal and tracheal mucus.

5- Transmission: by inhalation or ingestion .

6- method of spread drinking of milk.

7- organism resist to heat ,destroyed by sun light unless its in moist environment .

8- disease importance in dairy cattle ,death. ,lose 10-25% animal production .

9- disease importance for public health ,the ease and frequent of spread of tuberculosis from animal to human make it important zoonosis .

10- human infection occur through consumption of infected milk by children but spread can occur by inhalation .

Pathogenesis :

-Organism entrance ----Visible primary focus developed with in 8 days of entry-----
---calcification of lesion about 2week later,

-developing necrotic focus is soon and surrounded by granulation tissue and lymphocyte.

- pathogenic tubercle established .

-TB. Spread in the body by two stage :

1- primary complex -----consist of lesion at the point of entry(inhalation),and local lymph node.

2- post primary dissemination -----from the primary complex may take the form of military tuberculosis (discrete nodular lesion in various organ) or

Chronic organ tuberculosis caused by endogenous or exogenous(LN) reinfection of tissue.

Clinical Finding:

1-some cow with extensive military tubercular lesion are clinically normal but in most cases progressive emaciation .

2- capricious appetite and fluctuating temperature .

3- Rough hair coat or sleek.

-Pulmonary Tuberculosis :

-chronic cough due to bronchopneumonia ,the cough never loud or paroxysmal occurring only one or twice at a time and is low suppressed and moist .it is more common in the morning or cold weather .

-in advanced stage (lung destroyed) cause dyspnea, increase respiratory rate. And depth.

-on auscultation ---area with no breath sound and dullness on percussion .

-bronchial LN. involved and caused dyspnea (constriction of air passage).

-enlargement of mediastinal LN. is associated with recurrent and persistent ruminal tympany.

-Retropharyngeal LN. enlargement cause dysphagia and noisy breathing due to pharyngeal obstruction.

Chronic form :

-painless swelling of the sub maxillary ,prescapular and supramammary LN.

-uterine tuberculosis uncommon except in advance cases

-tuberculous metritis interfere with conception .or conception may followed by recurrent abortion late in pregnancy.

-Tuberculosis mastitis :

-is marked indurations and hypertrophy developed first at upper part of udder ,particularly in rear quarters .

-enlargment of supramammary node with fibrosis .

Sheep and Goat :

-broncho pneumonia is the common form -----cough, dyspnea.

-Goat ---intestinal ulcer with diarrhea,enlargement of LN.

Clinical Pathology:

- React poor to some serological test.

- Tuberculin test(comparative test) .

Differential Diagnosis :

1- Lung abscesses due to aspiration pneumonia

2- Pleurisy and pericarditis following traumatic reticulitis .

3- Chronic contagious bovine pleura pneumonia .

4- Sequel of traumatic reticulitis .

5- *Actinobacillus lignieresii* ,LN enlargement.

6- Lymphomatosis may be confuse with TB. A-nd it is bilateral enlargement of several LN.and it softer and smoother than TB.

Treatment:

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- Streptomycin and para-aminosalicylic acid ----in human
- Animal long term oral medication with isoniazid (prophylaxis).

Control:

-Eradication of bovine tuberculosis (test and slaughter)

-1- removal of infected animal (by tuberculin test)

2- all animal over 3 month of age tested ,positive disposed

3-suspicious are retest at intervals.

4- retest the herd should be carried out at 3 monthly intervals until negative test is obtained .

5- hygienic measures to prevent spread of infection .,use disinfectant cresol,phenol 5%.

6-All other classes of livestock on farm should be examin

7- vaccination use BCG ,only method available for field use S/C of 50-100ml vaccine repeated annually.

8- Calves vaccinated soon after birth .

{ B CG = Bacille calmette Guerin.}

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