

Contagious Caprine Pleuropneumonia

Etiology: *Mycoplasma capricolum subsp. capripneumoniae* is the causative agent. A genus of cell wall-less, sterol-requiring, Catalase negative, bacteria typically non-motile and pleomorphic, ranging from spherical, ovoid or pear-shaped to branched filamentous forms. Most mycoplasmas are facultative anaerobes. Do not stain by the Gram method.

Epidemiology:

Contagious caprine pleuropneumonia is a highly fatal disease that occurs in goats in the Middle East, Africa, and Asia. Outbreaks have recently been reported in sheep and captive wildlife, including gazelles and small ruminants.

It appears to be transmitted by infective aerosol. Morbidity can be 100%, and mortality 60%–100%. The disease is introduced into a new region by healthy carriers. Pneumonia and pleuropneumonia can be caused by other *Mycoplasma*.

Clinical Findings:

Weakness, anorexia, cough, hyperpnea, and nasal discharge accompanied by fever 40.5°–41.5°C are often found. Exercise intolerance progresses to respiratory distress, with open-mouth breathing and frothy salivation. Under adverse climatic conditions the disease may occur in a septicemic form with little clinical or postmortem evidence of pneumonia.

Necropsy findings:

Typically, there is an excess of straw-colored pleural exudate and acute fibrinous pneumonia. Consolidation is sometimes confined to one lung. Histologically, contagious caprine pleuropneumonia is characterized by an interstitial interlobular edema.

Clinical pathology:

- ✓ Antigen can be detected in lung tissue and pleural fluid by PCR.
- ✓ Serological tests used to identify carrier animals include; complement fixation, ELISA and a latex agglutination test.



Diagnosis:

- The clinical signs, epidemiology, and necropsy findings are used to establish a diagnosis.
- The causative organism should be isolated and identified, but isolation may be difficult, and special media is required for culture.
- PCR, which can be performed directly on the pleural fluid or affected lung, has greatly facilitated the diagnosis of contagious caprine pleuropneumonia.
- Serologic tests are complement fixation, passive hemagglutination, and ELISA; the latex agglutination test can be done in the field directly on whole blood as well as on serum samples in the laboratory.

Differential diagnosis

The diagnosis of outbreaks of respiratory disease in goats, and of CCPP in particular, is complicated, especially where it is endemic. It is readily contagious and fatal to susceptible goats of all ages and both sexes, rarely affects sheep, and does not affect cattle.

- PPR, to which sheep are also susceptible;
- Pasteurellosis, which can be differentiated on the basis of distribution of gross lung lesions.
- Contagious agalactia syndrome, also known as Mastitis, arthritis, keratitis, pneumonia and septicaemia syndrome .

Treatment

- Tylosin at 10 mg/kg/day, IM, for 3 days, has been effective, as has oxytetracycline (15 mg/kg).
- More recently, flunixin meglumine (2.2 mg/kg IV every 24 hours for 2-3 days) also has been advocated as an accessory treatment because it may reduce lung inflammation.

Control: Quarantine of affected flocks is desirable. Vaccines are available in some countries, and good to excellent protection has been reported. Vaccination with an inactivated (mycoplasma F38) vaccine induces an immune response which is effective in reducing morbidity and mortality rates, and a booster dose 1 month after the first vaccination provides additional protection .