CONTAGIOUS BOVINE PLEUROPNEUMONIA (CBPP)

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<td>Cattle (Bos spp.) Sheep, goat Buffalo Bison Yak Reindeer</td>
<td>Close direct contact (inhalation of droplets)</td>
<td>Respiratory, pulmonary and pleurotic symptoms. Polyarthritis (calves)</td>
<td>Low morbidity and low or non-existent mortality</td>
<td>No efficient</td>
<td>In houses in zoos Testing, slaughtering of all animals of the herd in which positive animals have been found and quarantine</td>
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Susceptible animal groups
Cattle (Bos spp.), buffalo, yak, bison, reindeer. Sheep, goat. Wild bovids and camels are resistant

Causative organism
Mycoplasma mycoides subsp. mycoides small colony type (MmmSC). Mycoplasma is a self-replicating, pleomorphic and wall-less prokaryotic organism. Resistant to antibiotics of beta-lactam group. There is only one antigenic group. Complex media is required for growth in the laboratory.

Zoonotic potential
There is no evidence to indicate that humans are susceptible to this disease

Distribution
CBPP is endemic in most of Africa. It is a problem in parts of Asia, especially India and China. CBPP was eradicated from the United States, Australia and Europe. However, outbreaks have occurred in Spain, Portugal and Italy (1990s).

Transmission
CBPP is spread by inhalation of droplets from an infected coughing animal. Relatively close contact is required for transmission to occur. Alternative routes, like wind-borne and indirect transmission, cannot be excluded.

Incubation period
The incubation period of the natural disease may range from 5 to 207 days. Normal range from 20 to 40 days

Clinical symptoms
a) Acute forms → Dullness, anorexia, irregular rumination / Moderate fever / Respiratory, pulmonary and pleurotic symptoms: polypnea, characteristic attitude (elbows abducted, head extended, arched back), cough (at first dry, slight and not fitful, becoming moist). At percussion, dull sounds can be noticed in the low areas of the thorax / Polyarthritis in young animals.
b) Hyperacute forms → The clinical signs observed are much accelerated. Affected animals may die within a week exhibiting classical respiratory signs.
c) Subacute/Chronic forms → Slight cough only noticeable when animal is exercised / Recurrent low-grade fever.

Post mortem findings
- Important amount of yellow or turbid exudes in pleural cavity that coagulates to form large fibrinous clots.
- Fibrinous pleurisy: thickening and inflammation of the pleura with fibrinous deposits.
- Interlobular oedema, marbled appearance due to hepatisation and consolidation at different stages of evolution usually confined to one lung.
- Sequestrae with fibrous capsule surrounding grey necrotic tissue in recovered animals
**Diagnosis**

a) Identification of the agent: Culture / Immunobinding (MF-dot) / PCR / Immunohistochemistry (IHC)  
b) Serological test: Complement fixation test (CFT) / Competitive ELISA / Latex Agglutination test (LAT) / Immunoblotting test (IBT)

**Material required for laboratory analysis**

- Live animal: nasal swabs and secretions, tracheal and bronchoalveolar washes, pleural fluid. Blood should be collected for sera.
- Dead animal: lung lesions, pleural fluids, lymph nodes, lung tissue-exudate, joint fluid.

**OIE Reference Laboratories in Europe**

1. **Dr F. Poumarat**  
   AFSSA Lyon, Laboratoire de pathologie bovine  
   31 avenue Tony Garnier, BP 7033, 69342 Lyon Cedex 07  
   FRANCE  
   Tel: (33 (0)4) 78.72.65.43 Fax: (33 (0)4) 78.61.91.45  
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4. **Dr F. Thiaucourt**  
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   Campus international de Baillarguet TA A-15/G, 34398 Montpellier Cedex 5  
   FRANCE  
   Tel: (33(0)4) 67.59.37.24 Fax: (33(0)4) 67.59.37.98  
   Email: francois.thiaucourt@cirad.fr

**Relevant diagnostic laboratories**

Centre de cooperation internationale en recherché agronomique pour le developpement  
Département d’élevage et de médecine vétérinaire CIRAD-EMVT  
Campus international de Baillarguet, BP 5035, 34032, Montpellier Cedex 1  
FRANCE (World Reference Laboratory)

**Treatment**

No efficient treatment. Antimicrobial therapy (streptomycin, oxytetracycline, fluoroquinolones, choramphenicol) may only serve to slow the progression of the disease or may even in some cases favour the formation of sequestra.

**Prevention and control in zoos**

- Maintain sufficient regulatory restrictions to prevent the introduction of CBPP in apparently healthy animals. Serologic testing (complement fixation) of susceptible animals for importation and quarantine in an isolated area.
- In an outbreak situation, testing, slaughtering of all animals of the herd in which positive animals have been found and quarantine would be the methods of choice.

**Suggested disinfectant for housing facilities**

Formaldehyde solution (0.5% - 30 seconds)

**Notification**

CBPP is the only bacterial disease of the list A (OIE)

**Guarantees required under EU Legislation**

EU Directive 82/894

**Guarantees required by EAZA Zoos**

**Measures required under the Animal Disease Surveillance Plan**
# Measures required for introducing animals from non-approved sources

# Measures to be taken in case of disease outbreak or positive laboratory findings

### Conditions for restoring disease-free status after an outbreak

The International Health Code 2000 of the OIE describes the following requirements for declaration of freedom from CBPP:

- freedom from clinical CBPP for at least 2 years earlier
- a programme of abattoir surveillance in place for at least 4 years
- diagnostic procedures for CBPP in use to investigate respiratory diseases
- surveillance programmes including serological, pathological and microbiological test, for at least 3 years

### Contacts for further information

### References