

Bordetella bronchiseptica infection

FACT SHEET

What is *Bordetella bronchiseptica*?

- *Bordetella bronchiseptica* (Bb) is a gram-negative bacterium that colonises the respiratory tracts of mammals.
- It is a primary pathogen of domestic cats, particularly in high population density conditions such as rescue shelters and multicat households.
- Bb may rarely infect man (zoonosis).
- The bacterium is susceptible to common disinfectants.

Infection

- The bacterium is shed in oral and nasal secretions of infected cats. After experimental infection Bb could be isolated for 19 weeks.
- Bb colonises the ciliated epithelium of the respiratory tract of the host, establishing chronic infections.
- After infection, serum antibodies rise rapidly, but it is unknown for how long they persist.
- Dogs with Bb respiratory disease ('kennel cough') pose a risk for cats.

Clinical signs

- A wide range of respiratory signs has been associated with Bb infection, from a mild illness with fever, coughing, sneezing, ocular discharge and lymphadenopathy to severe pneumonia with dyspnoea (and cyanosis), which may be fatal.
- Pneumonia is usually seen in kittens of <10 weeks, but older cats can be affected as well. Bb infection should be considered in any coughing cat.

Diagnosis

- Bacterial culture and PCR are available but have a low sensitivity.
- Samples for isolation can be obtained as nasal or oropharyngeal secretions (swabs) or through transtracheal wash/broncho-alveolar lavage.
- The identification of Bb from bronchoalveolar lavage samples of cats with lower respiratory signs is diagnostic.
- Cytological analysis of tracheal washes demonstrates polymorphonuclear leucocytes, macrophages and bacteria.

Disease management

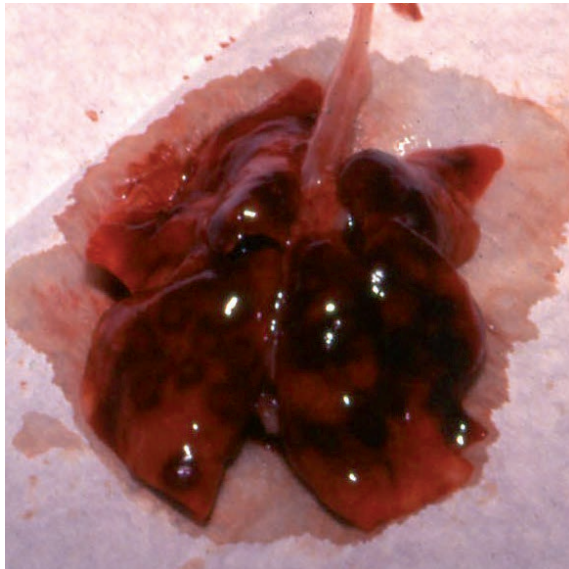
- Antibacterial therapy is indicated, even if the signs are mild.
- Where sensitivity data are unavailable, tetracyclines are recommended. Doxycycline is the antibiotic of choice.
- Severely affected cats require supportive therapy and intensive nursing care.
- Intravenous fluid administration may be required to compensate dehydration and restore electrolyte and acid-base balance.



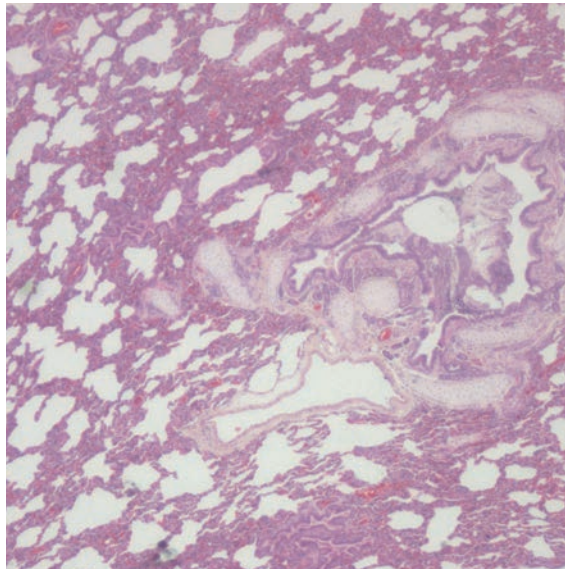
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Vaccination recommendations

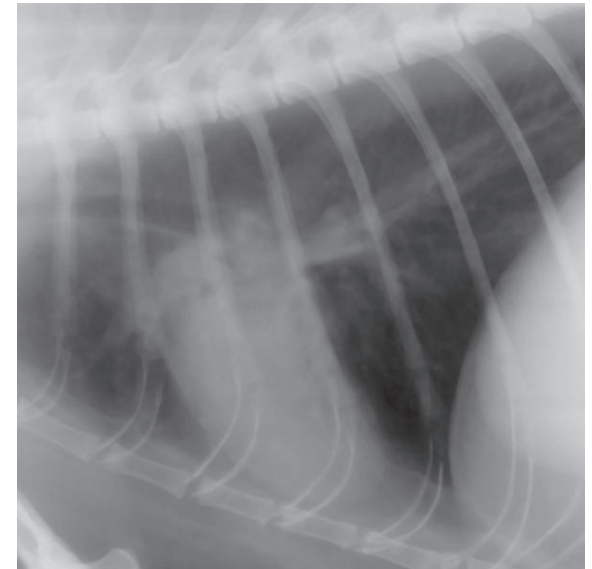
- In some European countries, an intranasal modified live vaccine is available. The modified live product is licensed for use as a single vaccination with annual boosters.
- Bb is a non-core vaccine component.
- Vaccination should be limited to cats living in high-density and/or high-risk populations with a history of Bb disease.
- Cats receiving live vaccines will shed bacteria; they must be avoided where an owner is known to be immunocompromised.
- As in dogs, these vaccines occasionally induce mild clinical signs in cats.



- Lungs of a kitten that died of pneumonia. *B. bronchiseptica* was isolated from the lungs.



- Lung section from a kitten that died of pneumonia caused by *B. bronchiseptica* infection.



- *B. bronchiseptica* infection in cats can sometimes lead to bronchopneumonia.