

What is Bartonella?

- *Bartonella* spp. are small, vector-transmitted Gram-negative intracellular bacteria
- Over 22 species have been described, three of which have the cat as primary reservoir: *B. henselae*, *B. clarridgeiae* and *B. koehlerae*.
- Cats are the main reservoir for *B. henselae*, the agent of cat scratch disease in humans (zoonosis).
- *Bartonella* spp. have a worldwide distribution. In Europe, the antibody prevalence in cats was found to be between 8 and 53%.

Infection

- *B. henselae* is most commonly transmitted between cats by flea faeces.
- *B. henselae* lives in the red blood cells which are ingested by the flea and can survive in the flea faeces for up to nine days.
- Flea faeces end up under the cat's claws and *Bartonella* is transmitted by scratching.

Clinical signs (cats)

- Most cats infected with *B. henselae* have no clinical signs.
- Infections with certain other *Bartonella* species, for which the cat is an accidental host (e.g. *B. vinsonii* subsp. *berkhoffii*), may lead to disease.
- Bartonellosis may cause uveitis, endocarditis and multifocal CNS disease.

Clinical signs (humans)

- Infection does not always lead to the development of clinical signs in healthy people.
- In humans, *B. henselae* may cause cat scratch disease: A primary papular lesion is usually followed by a self-limiting regional lymphadenopathy that may last weeks to months. Occasionally, abscessation of the lymph node and systemic signs may occur.
- In immunocompromised individuals, *Bartonella* infection may lead to bacillary angiomatosis that may be fatal if untreated.

Diagnosis

- Isolation by culturing is considered the gold standard. However, due to the high prevalence of infection in healthy cats, a positive culture is not confirmatory for a causative role of the infection in the disease of the cat.

Bartonellosis is therefore diagnosed by exclusion of other compatible diseases and confirmed by response to therapy.

- Due to fluctuating bacteraemia, repeated blood cultures are required or PCR performed on more than one kind of sample (blood, lymph node, oral swab) to confirm the infection.
- There is serological cross reactivity between different *Bartonella* species that may or may not cause clinical signs. However, antibody detection (IFAT or ELISA) may be useful because of the good negative predictive value.
- *Bartonella* laboratory testing is required for feline blood donors and for pet cats belonging to immunocompromised people.

Treatment

- Antibiotic therapy is recommended in infected healthy cats living with immunosuppressed persons or in the rare cases where *Bartonella* actually causes a disease in the cat, e.g. endocarditis.
- However, clearance of infection cannot be guaranteed, and treatment of healthy carriers may not eliminate the zoonotic risk.
- Data from controlled efficacy studies in cats are lacking and no treatment consistently eliminates infection; but doxycycline or amoxicillin-clavulanate can be effective.

Prevention

- There are no vaccines against *Bartonella* infection.
- Strict flea and tick control is the only demonstrated preventive measure of avoiding infection of cats.
- Immune-suppressed owners should preferably adopt cats that are older than 1 year, flea free and in good health (avoid cats from shelters and multicat households).
- Avoid rough play with cats and maintain the cat's claws trimmed.
- Wash any wound promptly with soap and water and seek a medical advice.