

Haemotrophic mycoplasma infections in cats

Mycoplasma haemofelis (formerly *Haemobartonella haemofelis*) is one of a group of haemotrophic mycoplasma organisms which can infect cats in NZ. The other organisms in this group are *Candidatus Mycoplasma turicensis* and *Candidatus M. haemominutum*

M haemofelis is relatively large and the organism can be seen on RBCs by microscopy (Fig 1). It is the most pathogenic haemotrophic mycoplasma and can cause a mild, moderate or severe haemolytic anaemia in immunocompetent cats. *M haemominutum* and *M turicensis* are small organisms not usually seen on a smear and uncommonly produce anaemia unless a cat is concurrently immunosuppressed with other diseases such as FeLV, FIV, coronavirus (FIP) or toxoplasma.

The organisms attach to the RBC membrane and trigger an immunological response. Extravascular haemolysis in the spleen is a common response with intravascular haemolysis causing haemoglobinaemia and haemoglobinuria occurring infrequently.

Diagnosis

Infection with *M haemofelis* usually produces a moderate to severe, regenerative anaemia, however, the anaemia may be non-regenerative if there is a concurrent viral infection. While small cocci in chains or rings may be seen on affected erythrocytes, microscopy is an insensitive method to detect organisms. When the cat presents for weakness and anaemia the organisms and RBCs have mostly been removed by splenic macrophages. False positive results can occur if stain precipitate is observed and an experienced eye is needed to accurately differentiate stain and detect the organism.

The best test to detect haemotrophic mycoplasmas is real time PCR. As cats can become negative after the start of antibiotic therapy, so diagnosis should be carried out before therapy is started. PCR is also useful for assessing the response to antibiotics because a negative result is expected if treatment is successful.



Fig 1. *Mycoplasma haemofelis* in rings and chains. Image By Nr387241 - Own work, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=14945255>