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A fatal case of suspected *Mycoplasma haemofelis* infection in a domestic–persian mixed cat with severe icterus and thrombocytopenia

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ABSTRACT: Feline hemoplasmosis is an infectious cause of hemolytic disease and should be considered in patients with anemia-associated signs and ectoparasite exposure. This report describes a suspected *Mycoplasma haemofelis* infection in a 1-year-and-5-month-old female domestic–Persian cat with lethargy, anorexia, vomiting, hypersalivation, flea infestation, and icterus of the skin and mucous membranes. Blood count revealed leukocytosis, microcytosis, and thrombocytopenia, and smear showed basophilic organisms associated with erythrocytes, supporting presumptive hemoplasmosis by *M. haemofelis*. The prognosis was dubius to infausta because of compromise. Treatment consisted of doxycycline at 5 mg/kg with fluids and hematopoietic support. Despite treatment, the patient deteriorated and died within 24 hours. This case highlights recognition, antimicrobial treatment, ectoparasite control, and supportive care.

Keywords:
feline hemoplasmosis, *Mycoplasma haemofelis,* blood smear, icterus, ectoparasite infestation

■ INTRODUCTION

In cats, routine ectoparasite infestation may indicate a hematologic problem. Fleas and ticks compromise the skin and signal exposure to arthropod-associated pathogens, but their role in feline hemoplasma transmission remains unresolved; therefore, the ABCD guideline advises interpreting vector exposure with clinical and hematologic findings rather than as proof of infection (Tasker *et al.* 2018). *Mycoplasma haemofelis*, the most pathogenic feline hemoplasma, attaches to erythrocytes, causing immune-mediated destruction and hemolytic anemia (Sykes 2010). Acute infection is suspected when lethargy, anorexia, dehydration, pale or icteric mucous membranes, and regenerative anemia occur with exposure history (Barker 2019). Surveys have detected Mycoplasma DNA in cats and fleas, supporting ectoparasite control, although vector detection does not confirm biological transmission (Razgūnaitė *et al.* 2024). Blood smear examination is affordable but less sensitive and specific than PCR and may miss low-level or cyclic bacteremia (Tasker 2010). This report describes feline hemoplasmosis with ectoparasites, emphasizing blood smear interpretation and monitoring.

■ CASE

Signalment: A 1-year-and-5-month-old intact female cat named Gembul, with a white coat and mixed domestic–Persian breed characteristics. **History:** The cat was presented with progressive weakness, anorexia, hypersalivation, and frequent vomiting. **Physical examination:** General weakness; weight 1.7 kg, and temperature 39.3°C. Mucous membrane examination revealed severe jaundice, and fleas were present on several parts of the body. **Supporting examinations:** Complete blood count (CBC) and blood smear examination. **Differential diagnosis:** Blood parasite infection (*Cytauxzoon felis*, *Mycoplasma haemofelis*), hepatitis. **Final diagnosis:** Blood parasite infection by *Mycoplasma haemofelis*. **Prognosis:** Dubius to infausta. **Treatment**: Doxycycline was administered at 5 mg/kg body weight as the first-line antimicrobial therapy.

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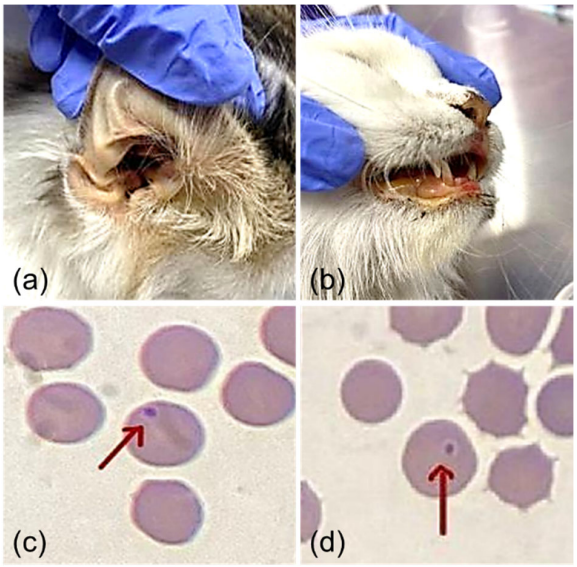

Figure 1. Findings in a cat with suspected *Mycoplasma haemofelis* infection. Icterus involved the auricular skin/pinna (a) and oral mucous membrane/lips (b). Blood smear showed basophilic organisms on erythrocytes, suspected *Mycoplasma haemofelis* (c–d; red arrows).

■ RESULTS AND DISCUSSION

A physical examination revealed severe systemic compromise with weakness, pyrexia, icterus, and flea infestation. Icterus suggested bilirubin accumulation, likely from hemolysis; however, hepatobiliary involvement could not be excluded because a liver profile examination was not performed, and hepatitis remained a differential diagnosis. Complete blood count revealed leukocytosis, microcytosis, and thrombocytopenia. Smear examination revealed anisocytosis and organisms suspected to be *Mycoplasma haemofelis* attached to erythrocytes. Because parasitemia may fluctuate, Tasker *et al.* (2018) recommended PCR when microscopic findings are equivocal.

Mycoplasma haemofelis is the most pathogenic feline hemoplasma and is strongly associated with feline infectious anemia (Tasker *et al.* 2018). The organism adheres to erythrocytes, promoting immune-mediated clearance and intravascular and extravascular hemolysis. This explains the severe jaundice in cat (Figure 1), as accelerated erythrocyte destruction increases bilirubin production before organisms are consistently detected on blood smears. Satriawan and Octaviani (2021) stated that transmission may occur vertically, through bites or scratches, and via arthropod exposure. In this case, flea infestation supported possible vector-associated exposure but not proof of transmission.

The hematological abnormalities in this case were consistent with reports that *M. haemofelis* infection may progress beyond uncomplicated anemia. Strandberg *et al.* (2023) reported that *M. haemofelis* infection can be associated with severe nonregenerative anemia, thrombocytopenia, and hemophagocytic syndrome, highlighting the potential for life-threatening systemic complications. In Gembul, the combination of severe weakness, icterus, thrombocytopenia, and rapid deterioration suggested that the disease was already advanced at the time of presentation.

Doxycycline was administered at 5 mg/kg as first-line therapy for 28 days, the main treatment for clinical *M. haemofelis* infection, although it may improve signs without clearing infection (Tasker *et al.* 2018). Supportive therapy with fluids, vitamins, and hematopoietic agents was indicated to support erythropoiesis (Putra *et al.* 2022). Nevertheless, the patient deteriorated and died within 24 hours; urine and blood-tinged feces suggested bilirubinuria and hematochezia, reflecting hemolysis, admission weakness, and limited time.

■ CONCLUSION

Mycoplasma haemofelis infection in cats may rapidly progress to severe disease with icterus, thrombocytopenia, and ectoparasite infestation. Early diagnosis, antimicrobial therapy, and care are essential, although prognosis may remain poor in advanced cases.

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