

Uncovering the Mystery of Feline Fever

Dr. Petra Cerna PhD, DACVIM (SAIM), Dipl. ECVIM-CA, DABVP (Feline), MANZCVS (Medicine of Cats)

RCVS Recognized Specialist in Feline Medicine

Assistant Professor in Small Animal Internal Medicine, University of Georgia

Pyrexia (fever) is an increased body temperature secondary to the release of pyrogens and a raised thermoregulatory set point in the anterior hypothalamus. The normal body temperature range in cats is 98.1–102.1°F (36.7–38.9°C). Fever of unknown origin (FUO) in cats is classified as a temperature higher than 39.7°C (103.5°F) measured at least 4 times in a 2-week period without an identified cause. Identifying the cause of fever in cats is a diagnostic challenge with infection being the most common cause of FUO in cats. While most cats have their temperature taken rectally, there is a close correlation between rectal and axillary temperature in cats (1).

Infectious diseases are the most common causes of feline pyrexia. A recent study showed that infectious disease represented the largest category (38.7%). Within this category, FIP was diagnosed in 22 cases (20.8%). Inflammatory (non-infectious) disease comprised the second-most common disease category (17.9%) and neoplastic disease third (12.3%). Pyrexia was attributable to miscellaneous conditions in 10.4%. Immune-mediated disease was the smallest disease category (5.7%). No diagnosis was established in 15.1% (2).

The diagnostic approach to fever in cats must be targeted to each patient. It should be guided by history and physical examination findings, laboratory test results, and the potential causes common to the geographic location. Obtaining a thorough history is the first step to a successful diagnostic approach. Determining indoor/outdoor status, travel history, flea and tick control and potential exposure to diseases transmitted by parasites (e.g., hemotropic mycoplasmosis, ehrlichiosis, bartonellosis, cytauxzoonosis), and contact with other cats is also important as many infectious causes of fever are transmissible. Fundic examination should be performed because numerous infectious diseases (e.g., FIP, fungal diseases) cause ocular changes.

Typically, the changes seen on the CBC and serum chemistry profile in cats with fever are nonspecific but can help suggest the next diagnostic steps. A blood smear should always be evaluated along with the CBC to help identify morphologic changes, infectious organisms, or changes consistent with neoplasia. Serum should be saved at this point for future testing, if needed. A urine sample collected by cystocentesis (unless contraindicated) should be submitted for urinalysis with antimicrobial culture and sensitivity if indicated.

Three-view thoracic radiographs should be obtained if the minimum database does not reveal the cause of the fever. Cats with lower respiratory disease are frequently asymptomatic, so care must be taken to rule out primary or secondary respiratory problems. Abdominal ultrasonography can be valuable in detecting lesions. It can also assist with fine-needle aspiration or biopsy if needed. Fine-needle aspiration should be conducted on any suspicious masses, lymph nodes, fluid accumulations, or abnormal organs, and samples should be submitted for cytology.

All cats with fever should be tested for retroviruses (FeLV and FIV) and serum samples should be submitted for infectious disease testing (eg. bartonellosis) if a disease is clinically suspected and if patient history suggests possible exposure. Toxoplasmosis serology (IgG and IgM) should be submitted for all cats with fever. Blood culture should be conducted for cats with fever and suspected bacteremia. Arthrocentesis should be conducted on cats even if there is no obvious evidence of joint disease. Calicivirus, *Mycoplasma spp.*, L-form bacterial infection, and FeLV with feline foamy virus are all associated with polyarthritis in cats (3-6). Other infective arthritides include fungal, rickettsial, and protozoal diseases (7).

References:

1. Smith VA, Lamb V, McBrearty AR. Comparison of axillary, tympanic membrane and rectal temperature measurement in cats. J Feline Med Surg 2015; 17: 1028–1034.

2. Spencer SE, Knowles T, Ramsey IK, Tasker S. Pyrexia in cats: Retrospective analysis of signalment, clinical investigations, diagnosis and influence of prior treatment in 106 referred cases. *J Feline Med Surg*. 2017 Nov;19(11):1123-1130.
3. Dawson S, Bennett D, Carter SD, et al. Acute arthritis of cats associated with feline calicivirus infection. *Res Vet Sci* 1994;56(2):133-143.
4. Liehmann L, Degasperi B, Spargser J, et al. *Mycoplasma felis* arthritis in two cats. *J Small Anim Pract* 2006;47(8):476-479.
5. Carro T, Pedersen NC, Beaman BL, et al. Subcutaneous abscesses and arthritis caused by a probable bacterial L-form in cats. *AVMA* 1989;194(11):1583-1588.
6. Pedersen NC, Pool RR, O'Brien T. Feline chronic progressive polyarthritis. *Am J Vet Res* 1980;41(4):522-535.
7. Bennett D. Immune-mediated and infective arthritis. In: Ettinger SJ, Feldman EC, eds. *Textbook of Veterinary Internal Medicine*. Vol 2. 6th ed. St. Louis: Elsevier Saunders; 2005:1958-1965.