Plague in Domestic Cats

J. Scott Weese, DVM, DVSc, DACVIM
Ontario Veterinary College
Ontario, Canada

In the Literature

Kassem AM, Tengelsen L, Atkins B, et al. *Notes from the Field*: Plague in Domestic Cats—Idaho, 2016. *MMWR Morb Mortal Wkly Rep*. 2016;65(48):1378-1379.

FROM THE PAGE ...

Plague is often thought of in historic terms, but it is still found in many areas of the world, including parts of the United States. Although the widespread impact of the "black death" is not likely to be repeated in our time, plague still poses substantial risk to exposed humans, including pet owners and veterinarians.

Yersinia pestis, the cause of plague, is maintained in various wildlife populations, particularly wild rodents, and is spread through close contact and fleas. Spillover infections of domestic animals can occur, particularly in cats through their high susceptibility to infection and exposure to small rodents and infected fleas during hunting.

This article described infection of 6 cats in Idaho between May 30 and July 26, 2016. Five were indoor–outdoor cats, and one strictly lived outdoors. Plague had been identified in ground squirrels in Idaho the year before, and all infected cats had contact with ground squirrels and wild rodents and rabbits. One was also treated with a flea-control product, which likely indicates it had a flea infestation and highlights both a possible source of infection and potential for subsequent human exposure.

One problem with plague is that disease can be vague, as was evident here, with fever and lymphadenopathy (bubonic plague) being the main signs. Three cats were treated with antimicrobials; 2 of those survived. The decision whether to treat often depends on disease severity and willingness of owners and clinicians to manage infected (or suspect) cases. As was the case here, the prognosis is reasonable in cats with bubonic plague, especially with early treatment; however, treatment can put humans at risk. Fortunately, pulmonary involvement was not identified. Beyond being almost invariably fatal in cats, pneumonic plague poses a greater risk to caretakers, who can be exposed to *Y pestis* while providing medical and nursing care.

There are numerous reports of cat-associated plague, often involving clinicians,[1-3] with mortality rates in the range of 20%. No human infections were associated with the cats in this study.

... TO YOUR PATIENTS

Key pearls to put into practice:

1. There is continued need for plague awareness among clinicians and pet owners in areas where plague is active.
2. Decreasing risk for plague includes using flea control (especially in cats), reducing contact between cats and wildlife, and being aware of the potential for plague in cats with outdoor access and vague clinical signs.[4]
3. Use the CDC's plague resources for both clinicians (cdc.gov/plague/healthcare/veterinarians.html) and pet owners (cdc.gov/plague/prevention/index.html).

References

1. Gage KL, Dennis DT, Orloski KA, et al. Cases of cat-associated human plague in the Western US, 1997-1998. *Clin Infect Dis*. 2000;30(6):893-900.
2. Thornton DJ, Tustin RC, Pienaar BJ, Pienaar WN, Bubb HD. Cat bite transmission of Yersinia pestis infection to man. *J S Afr Vet Assoc*. 1975;46(2):165-169.
3. Werner SB, Weidmer CE, Nelson BC, Nygaard GS, Goethals RM, Poland JD. Primary plague pneumonia contracted from a domestic cat at South Tahoe Lake, Calif. *JAMA*. 1984;251(7):929-931.
4. Weese JS, Fulford MB. Bacterial diseases. In: Weese JS, Fulford MB, eds. *Companion Animal Zoonoses*. Ames, Iowa: Wiley-Blackwell; 2011:109-240.