



PLAGUE —

By Fred Emerich

Plague is a disease caused by the bacteria *Yersinia pestis*. Once called Black Death in medieval times, it is an acute and sometimes fatal (if not treated by antibiotics) bacterial disease communicable from lower animals to humans transmitted primarily by fleas of rats, rabbits, and other rodents.

We know prairie dogs and other rodents in Wyoming, Colorado, New Mexico, and other Western states are continuously undergoing cycles of plague between the hosts and their fleas. Plague kills the rodents, and, with no host, the fleas will attempt to find other hosts until the rodent population increases. Focal areas of plague commonly occur in the Western U.S. in locations with high concentrations of rodents.

Plague can also infect rabbits and cats, but most other mammal species are resistant to naturally occurring infection. Domestic cats, and to some extent dogs, can contract plague through oral mucus membrane exposure to infected rodent tissue as well as flea bites.

Plague usually presents itself in mammals as bubonic plague (involving swollen lymph nodes), pneumonic plague (involving the lungs), and pneumonia or septicemic plague (bacteria in the bloodstream).

Recognizing Plague

Plague in domestic animals is an increasing problem as more people are encroaching on rodent habitat. Until recently, veterinarians didn't diagnose plague in small domestic animals because it was believed they were resistant to the disease. In the late 1970s, plague was diagnosed in Cheyenne in a cat. The unfortunate outcome was pneumonic plague in a veterinary technician. The individual lived, but the plague issue was thrust upon the veterinary community. Subsequently, veterinarians are more aware of plague in free-roaming cats. Signs a cat may have plague include fever, lethargy, anorexia (no appetite), and an enlarged lymph node or two in the throat at the angle of the jaw. The nodes may be abscessed and draining. Mouth and

tongue ulcers, ocular discharge, and skin abscesses may also be seen. The other forms of plague (pneumonic and septicemic) can be seen in cats but not often. If diagnosed early, plague can be treated with antibiotics, usually with a successful outcome. Those who have a pet with plague should contact his or her physician and the public health department in his or her county or city.

Avoiding Plague

Because of public health concerns, animals with signs suggestive of plague should be isolated and infection control measures implemented; use gloves, eye protection, and masks. To decrease the risk of pets and humans being exposed to plague, pet owners in known plague



What causes it? What are the symptoms? What should be done if you suspect an animal is infected?

areas should keep pets from roaming and hunting and limit their contact with rabbit and rodent carcasses.

Appropriate flea control, such as using flea powders and collars for pets and premises, should be practiced at all times. Plague is a reportable disease that has a defined meaning with local health departments and the Wyoming Livestock Board and must be reported to the Wyoming Department of Health if diagnosed.

Plague affects about 10 humans per year in the United States, but many pets can die of the disease if owners are not aware of the possibility of spread between rodents, their fleas, and domestic pets. As always,

consult your veterinarian if you suspect your pet may have been exposed to plague through rodent and rabbit carcasses or their fleas.

For more information about plague:

- <http://www.health.wyo.gov/phsd/epiid/plague.html>
- A map showing cases of animal plague in Wyoming is at <http://wyovet.uwyo.edu/Zoonosis.asp>
- A link to an article describing a fatal case of plague in a wildlife biologist associated with the disease in a mountain lion – http://wyovet.uwyo.edu/Diseases_2008.asp and <http://wyovet.uwyo.edu/Diseases/2005/PlagueCats.pdf>

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