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Gibbons: Are prairie dogs the cause of monkeypox?

Forty-five years ago, scientists discovered a disease in laboratory monkeys they called "monkeypox."

The virus that caused the disease is believed to have originated in African rodents, in particular a squirrel or rat. More than 30 years ago, monkeypox was determined to be the cause of a human illness in isolated regions of Africa. The virus was potentially lethal. According to the Centers for Disease Control and Prevention, as many as 10 percent of the people contracting monkeypox in Africa died from the disease. In early summer 2003, monkeypox found its way into the human population of the United States. Prairie dogs have been identified as the probable carrier of the monkeypox virus.

The symptoms of monkeypox have been likened to a mild case of smallpox (from which 30 percent of the victims died), with visible lesions that can last more than three weeks. Other symptoms of monkeypox include fever, swollen lymph nodes and general muscle aches and pains. After about four weeks, the lesions disappear. The long-term effects of monkeypox on surviving patients treated in the United States are unknown because of the emerging nature of the problem. The spread of the disease is believed to be through direct contact with infected animals, people with the disease and contaminated clothes or bedding. Monkeypox is so rare no vaccine has been produced.

How exactly did prairie dogs get involved in spreading a deadly virus to humans and what should be done about it? From a health care perspective, one decision about what to do about avoiding monkeypox seems rather straightforward. Get rid of your pet monkeys, African squirrels and American prairie dogs. But how silly is that suggestion, considering we live in a country where you can find avid and devoted owners of pet skunks, pit vipers or Bengal tigers? For that matter, some people even keep Chihuahuas as pets, so controlling the pet urge can be tough.

Understanding prairie dogs might be instructive. These are communal animals of the western plains that live in underground burrows. Watching a family of prairie dogs around their burrows is great sport, and with state and national parks offering them protection, such opportunities abound. Yet only half a century ago, probably as many prairie dogs were shot at for sport as were watched for fun. And because many ranchers viewed them as major pests, prairie dogs were the target of countless campaigns to eradicate them from the countryside. But they are cute furry, large-eyed creatures that get to be a little more than a foot long, so people who have not tried to eliminate them in one way or another have tried to make pets out of them.

Ecologically, prairie dogs are colonial animals, and prairie dog towns consisting of dozens or hundreds of burrows may cover several hundred acres. One record-size prairie dog metropolis reported in the early days of western settlement was more than 200 miles long and half as wide.

As social animals, prairie dogs are readily susceptible to transmittable diseases. One disease they can carry that is serious, for humans as well as prairie dogs, is



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plague, which is transmitted by fleas. Like other rodents, prairie dogs have fleas.

Although a bacterium causes plague and an airborne virus causes monkeypox, prairie dogs are preadapted to transmit either. People who keep prairie dogs as pets are, in one sense, joining a prairie dog colony and understandably can be vulnerable to what prairie dogs give each other.

Monkeypox probably is not going to become a raging epidemic, even among people who keep prairie dogs as pets.

Although I have not seen a statistic on how many people keep pet animals capable of carrying monkeypox, I would bet that of those who have, a vanishingly small percentage have suffered from the disease.

Keeping such pets clean and well fed, as well as practicing normal hygienic behavior after handling them, eliminates most of the possibilities for transmittable diseases.

Clearly, then, pets alone are not responsible for transmitting diseases to human. The pet owners probably play a major role in most cases - and presumably those owners, unlike the pets, can take steps to prevent the spread of disease.

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