Potential Rabies Exposures

Rabies is a rare but fatal disease caused by contact with the saliva of an infected, or “rabid,” animal. Earlier this year, the Centers for Disease Control and Prevention (CDC) formally declared the United States free of the dog specific form of the rabies virus known as canine rabies. Despite this pronouncement, rabies remains a human threat in the U.S., particularly from bats.

During summer in Chicago, the likelihood of human-bat contact increases because of bat migration and feeding patterns. Although not all bats carry rabies, bats in Chicago and the surrounding area test positive for the virus each year. Provisionally, from January to mid-October 2007, the Chicago Department of Animal Care and Control (CDACC) received 593 citizen reports of bat sightings. From these reports, 264 bats were captured for testing, and of these, 11 (4.2%) tested rabies-positive. This represents an increase over 2006 numbers, when 3 (2.1%) of 145 bats tested rabies-positive. A similar increase has been reported statewide. From January 1-August 15, 2007, the Illinois Department of Public Health already reports 58 rabies-positive bats in Illinois (6.6% of bats tested), compared to 46 rabies-positive bats (3.5% of bats tested) during all of 2006.

Upon receipt of a laboratory report of a rabies-positive bat or notification of a potential human exposure to a bat, investigators in the Communicable Disease (CD) Program determine whether individuals came into contact with bat saliva via a bite or non-bite (mucous membrane or open wound) exposure. Because bats have very small teeth, a bite might not be strongly felt or might leave only a very faint mark on the skin. Even in the absence of an obvious bite, there are certain situations in which individuals should seek medical advice to determine the need to begin rabies prophylaxis, such as physical contact with a bat, awakening to find a bat in the room, or seeing a bat near a mentally impaired or intoxicated person. If a bat is found near an unattended pet, individuals should consult a veterinarian or CDACC.

During June–September 2007, 25 incidents of potential human exposures to bat saliva were reported to the CD Program. Of the bats involved in these incidents, 10 (40%) tested rabies-positive, 1 (4%) tested negative, and 14 (56%) were not available for testing. In exposure instances in which the bat is available, individuals should call 311 to request that CDACC capture the bat and submit it for testing.

Despite the disease being fully preventable in humans, rabies accounts for at least 55,000 deaths annually around the world. In the low-income countries of Africa, Asia, and Latin America, canine rabies is common. During 2004–2007, the CD Program investigated and oversaw interventions for seven Chicago residents bitten by potentially rabies-infected animals while traveling in other countries (Dominican Republic, Malaysia, Mexico, Philippines, Poland, and Thailand). The figure shows, by quarters, the frequency of incidents of potential human exposures to rabies virus among Chicago residents that prompted post-exposure prophylaxis in recent years. The dog and cat exposures represented in the figure occurred outside the U.S.; the fox, raccoon, and bat exposures were domestic.

Once the exposure scenario is verified to represent a risk of rabies transmission, the exposed person should receive Rabies Immune Globulin (RIG) and rabies vaccine in a hospital emergency room, and the CDPH communicable disease physician on call should be contacted by calling 311 (outside city limits call 312-744-5000). The recommended dose of RIG is 20 IU/kg. As much of the dose as possible should be used to infiltrate the wound(s), if present. The remainder is given intramuscularly. For children with a small muscle mass, it may be necessary to administer RIG at multiple sites. Rabies vaccination is a series, administered on days 0, 3, 7, 14, and 28 post-exposure. Exposed individuals who have previously received rabies vaccination should receive vaccine booster doses on days 0 and 3.

For more information, visit CDC’s rabies website at www.cdc.gov/rabies/. Illinois rabies statistics can be found at http://www.idph.state.il.us/health/infect/reportdis/rabies.htm.