Notes from the Field

Fatal Infection Associated with Equine Exposure — King County, Washington, 2016

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On March 17, 2016, Public Health—Seattle & King County in Washington was notified of two persons who received a diagnosis of *Streptococcus equi* subspecies *zooepidemicus* (*S. zooepidemicus*) infections. *S. zooepidemicus* is a zoonotic pathogen that rarely causes human illness and is usually associated with consuming unpasteurized dairy products or with direct horse contact (*1*). In horses, *S. zooepidemicus* is a commensal bacterium that can cause respiratory, wound, and uterine infections (*2*). The health department investigated to determine the magnitude of the outbreak, identify risk factors, and offer recommendations.

Patient A, a previously healthy woman aged 37 years, operated a horse boarding and riding facility in King County, Washington. Patient A fed, groomed, and exercised the facility's six horses and cleaned the stalls daily. During the week of February 21, 2016, patient A developed mild pharyngitis and cough. During the week of February 21, horse A developed mucopurulent ocular and nasal discharge and lethargy. On February 29, patient A began administering 10 days of sulfa-based antibiotics to horse A, which recovered without incident.

Patient B, a previously healthy woman aged 71 years and the mother of patient A, developed symptoms consistent with an upper respiratory infection during the week of February 21 while visiting patient A and living in the same household. On March 2, she developed vomiting and diarrhea. On March 3, she was found unconscious and transported to a hospital, where she died that day. Patient B had close contact (i.e., riding, petting, and walking) with horse A on at least February 25 and February 29.

Culture results of nasal swabs collected on March 10 from horse A and two other horses that appeared well were positive for *S. zooepidemicus*. Patient A did not report consumption of unpasteurized dairy products or exposure to other animals, apart from one healthy cat, during the preceding 2 months. A throat culture from patient A obtained March 10 and blood cultures from patient B grew *S. zooepidemicus* isolates indistinguishable by pulsed-field gel electrophoresis from isolates cultured from horse A and a second horse at the facility. *S. zooepidemicus* cultured from a third horse did not match other isolates.

The epidemiologic and laboratory evidence from this investigation linked a fatal *S. zooepidemicus* infection to close contact with an ill horse. Patient B might have been at increased risk for invasive disease by *S. zooepidemicus* because of her age and her possible antecedent upper respiratory infection. Because patient A specifically sought health care and a throat culture as a result of patient B's death, determining whether the *S. zooepidemicus* infection preceded or followed her mild illness approximately 2 weeks earlier was not possible.

Although *S. zooepidemicus* is a rare zoonotic pathogen in humans, older persons might be at increased risk for a fatal outcome from this infection; in 32 reported cases, the median age was 61 years (range = <1 to 83 years) with 7 deaths (case-fatality rate = 22%) (*1*). Consistently practicing thorough hand washing with soap and water after contact with horses and other animals or areas where animals are housed is recommended (*3*). This outbreak highlights the need for more research regarding risk factors for zoonotic transmission and spectrum of human illness associated with *S. zooepidemicus*.

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