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Session: 167. Late Breaker Oral Abstracts: Emerging Infections
Friday, October 5, 2018: 2:00 PM

Background. In January 2018, a patient admitted to a Delaware hospital tested positive for New World hantavirus by IgM and IgG ELISA. Subsequent testing by CDC's Viral Special Pathogens Branch (VSPB) confirmed Andes virus (ANDV) by reverse transcription polymerase chain reaction (RT-PCR) and sequencing. ANDV is transmitted to humans through contact with long-tailed rice rats endemic to Argentina and Chile. Unlike other hantavirus species, ANDV can be transmitted person to person, but transmission is typically limited to close contacts of ill persons. Because of this risk, a contact tracing investigation was initiated by CDC, state and county health departments.

Method. A suspect case was defined as a person with close contact with the traveler who became ill within the maximum incubation period (42 days) following last contact. A high-risk contact was defined as a person with exposure to the traveler's body fluids. A low-risk contact was defined as a person who had provided care or in-flight service to, or was seated near the traveler for at least 1 hour, in the absence of exposure to body fluids. All contacts were advised to self-monitor their temperature daily for 42 days from last contact, and to seek medical care for any of the specified symptoms. Contacts that developed symptoms were tested for ANDV by RT-PCR and serology by VSPB.

Result. Fifty-three contacts were identified in six states; 51 were successfully reached. Of these, 28 were healthcare workers, 15 were airline contacts, seven were acquaintances of the traveler, and one was a hospital roommate. Two high-risk contacts were identified, both of whom remained asymptomatic. Six low-risk contacts reported influenza-like illness, diarrhea, or mild rhinitis during the incubation period. All six symptomatic low-risk contacts tested negative for ANDV by PCR, IgM, and IgG. The remaining low-risk contacts remained asymptomatic.

Conclusion. Hospitalized patients with ANDV should be managed with standard, contact, and droplet precautions. While the risk of human-to-human transmission is low, contact tracing should be considered to identify potential cases and limit additional exposures. Health providers should consider ANDV in returning travelers with a nonspecific febrile or acute respiratory illness who have traveled to the Andes region of Argentina or Chile in the preceding 6 weeks.

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LB8. Outbreak of Enterovirus A71 Neurologic Disease in Children—Colorado, 2018

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Background. In May 2018, an outbreak of enterovirus A71 (EV-A71) neurologic disease was detected at Children's Hospital Colorado (CHCO) prompting a public health investigation. We characterized clinical, laboratory, and radiologic findings during this outbreak.

Methods. A case was defined as meningitis, encephalitis, or acute flaccid myelitis with EV-A71 identified from a biologic specimen in a child examined at CHCO after March 1, 2018. Biologic specimens from children with neurologic disease and EV identified by clinical reverse-transcription polymerase chain reaction (RT-PCR) were typed by VP1 sequencing at CDC.

Results. As of July 20, 2018, 28 cases of EV-A71 neurologic disease were identified. This report describes the clinical, laboratory, and radiologic findings for the first 13 children identified with EV-A71 neurologic disease, for whom complete information is available. The median age was 13 months (range = 10 days–35 months) and 11 (85%) were male. Neurologic presentations included 12 (92%) with meningitis, 9 (69%) with encephalitis, and 3 (23%) with acute flaccid myelitis (AFM). All 13 children had fever and irritability; 3 (23%) had hand, foot, and mouth disease. Neurologic signs included encephalopathy ($n = 7$, 54%), ataxia ($n = 7$, 54%), myoclonus ($n = 6$, 46%), limb weakness ($n = 4$, 31%), cranial nerve deficits ($n = 2$, 15%), and seizures ($n = 1$, 8%). Nine (90%) of 10 children with cerebrospinal fluid (CSF) specimen analyzed had a pleocytosis (>5 white blood cells/uL); 6 of 8 (75%) children who had brain imaging showed abnormalities, with 5 (63%) in the brainstem, 3 (38%) in the cerebellum, and 3 (38%) in the spinal cord. All 13 children had EV-A71 identified in nasopharyngeal, pharyngeal, or fecal specimens; only 2 of 11 (18%) tested had EV identified in CSF. All 13 children were hospitalized and 4 (31%) required intensive care. The 3 (23%) children with AFM had residual limb weakness at time of discharge. All children survived.

Conclusion. EV-A71 should be considered when children present with myoclonus, ataxia, or limb weakness in the setting of a febrile illness. Testing of nonsterile sites

(respiratory, pharyngeal, or fecal) should be considered when CNS disease associated with EV is suspected and initial CSF testing is negative.

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LB9. Rising High Rate of Invasive Group A Streptococcus Infections Among Persons Experiencing Homelessness in San Francisco, 2010–2017

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Background. Rates of invasive group A *Streptococcus* (iGAS) disease in the United States have risen since 2014; reasons remain unclear. Outbreaks of iGAS infection among persons experiencing homelessness (PEH) and persons who inject drugs in Europe, Canada, and the United States have been described. Using active, population-based surveillance data from California's Emerging Infections Program, we describe incidence trends and characteristics of iGAS infection among PEH and persons not experiencing homelessness (PNEH) in San Francisco (SF) County during 2010–2017.

Methods. We defined an iGAS case as infection with GAS isolated from a normally sterile site (e.g., blood) in an SF resident. We calculated annual iGAS disease incidence rates (cases per 100,000 population) for PEH and PNEH using denominators from SF's Department of Homelessness and Supportive Housing and the State of California Department of Finance. Demographic, clinical, and exposure characteristics of PEH and PNEH were compared by chi-square or t-test.

Results. We identified 673 iGAS cases in SF during 2010–2017. Among these, 34% (229/673) were among PEH. Annual iGAS incidence among PEH rose from ~300 (2010–2014) to 547 (95% CI: 379–714) per 100,000 in 2017 ($P < 0.001$, Cochran-Armitage trend test); rates peaked at 758 (95% CI: 561–955) in 2016. Annual iGAS incidence in PNEH rose from a mean of 5 in 2010–2013 to 9.3 (95% CI: 7.3–11.4) per 100,000 in 2017 ($P < 0.001$). Annual iGAS incidence in PEH was 42–72 times that in PNEH. PEH with iGAS infections were significantly younger and more likely to be male, white, and uninsured or enrolled in Medicaid ($P < 0.05$ for each) compared with PNEH with iGAS disease. Case fatality ratios, ICU admission, infection type, and length of hospital stay did not differ significantly. Smoking, current injection drug use, current alcohol abuse, and AIDS diagnosis were significantly more common among PEH with iGAS. Obesity, diabetes, and cancer were significantly more common among PNEH with iGAS.

Conclusion. In San Francisco, iGAS rates among both PEH and PNEH have risen significantly. Incidence of iGAS is strikingly higher in PEH than in PNEH and exposures differed between PEH and PNEH with iGAS. This information could inform development of disease control and prevention strategies.

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LB10. Changing Epidemiology of Hepatitis A Virus Infections—United States, 2007–2017

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Background. Hepatitis A virus (HAV) is primarily spread fecal-orally and causes acute illness including fever, jaundice, and diarrhea. After introduction and widespread use of the hepatitis A vaccine in the United States, infection with HAV decreased and outbreaks typically associated with a common-source were uncommon.

Method. CDC receives reports of hepatitis A infections from states through the National Notifiable Disease Surveillance System (NNDSS) and/or directly to the viral hepatitis outbreak response team. We analyzed NNDSS hepatitis A data for 2007–2016, and a combination of NNDSS data and cases directly reported to the CDC hepatitis A outbreak response team during 2017; excluding 2017 NNDSS data from the four states that directly reported outbreaks to the outbreak response team to eliminate the potential for double-counting cases.

Result. During 2007–2011, a total of 10,619 hepatitis A cases were reported; 521 (5%) were associated with outbreaks. Of the 274 outbreak-associated cases for whom clinical data were reported, 102 (37%) were hospitalized and one (0.3%) died. Of the 407 outbreak-associated cases for whom risk exposure data were reported, 210 (52%) were associated with a common source. Comparatively, during 2012–2017, a total of 11,483 hepatitis A cases were reported; 2,323 (20%) were associated with outbreaks. Of the outbreak-associated cases for whom clinical data were reported, 1,306/2,162 (60%) were hospitalized and 43/2,178 (2%) died. Of the outbreak-associated cases for whom risk exposure data were reported, 379/2,188 (17%) were associated with a common source.

Conclusion. In the United States, outbreaks of hepatitis A infections in the decade prior to 2017 were infrequent and typically associated with a common source. Reported cases associated with hepatitis A outbreaks are increasing, along with concurrent increases in hospitalizations and deaths among persons with outbreak-associated infections. Recent outbreaks indicate a decrease in cases associated with a common-source exposure. Decreasing the susceptible population through adherence