RESEARCH BRIEFS

Outbreak of Hepatitis A Virus Infection Among Adult Patients of a Mental Hospital—Los Angeles County, 2017

In July 2017, 2 persons with immunoglobulin M (IgM) antibodies to hepatitis A virus (HAV) were reported to the Los Angeles County (LAC) Department of Public Health (DPH). The 2 adults (patient A and patient B) were residents of a multiunit mental hospital in LAC, which raised concern about possible transmission within the hospital. This hospital houses both long-term conservatorship patients as well short-term patients receiving acute-care psychiatric treatment. The LAC DPH conducted a site investigation to confirm the suspected cases, to assess risk for HAV transmission to hospitalized patients, to assess environmental conditions, to conduct active case surveillance, and to discuss enhanced infection control practices with infection control staff. Both reported patients (patient A and patient B) were housed in the same 45-patient locked hospital unit, but resided in separate patient rooms. Several environmental cleaning issues were identified and addressed with the hospital staff during the site visit, including substandard cleaning practices, cleaning solutions improperly diluted, and poorly maintained patient restrooms.

The LAC DPH consulted with infection control staff at the hospital and recommended administering HAV vaccine to all patients and staff on the affected unit who did not have a record of previous HAV immunity. Because the incubation period for HAV ranges from 15 to 50 days, the surveillance period was maintained for 50 days after the onset of symptoms of the last case, during which time the unit was closed to any new admissions or discharges.

Hepatitis A virus causes an acute liver infection in humans, transmissible from person to person via the fecal–oral route.[1–3] Approximately 1,500 cases of HAV infection have been reported in the United States each year since 2010.[4] In the United States, vaccination is recommended for children at age 1 year, adults at risk for acquisition of infection (eg, travelers, men who have sex with men, immunocompromised persons, injection drug users) and close contacts of patients with acute HAV infection.[1,3] Outbreaks of HAV infection in congregate living situations in the post-vaccine era are uncommon but have been reported.[5,6]

Among 45 patients in the outbreak unit of this hospital, 2 patients (4.4%) were initially identified as acute HAV cases (patients A and patient B); 11 patients (24.4%) had documented HAV immunity; and 32 patients (71.1%) were presumed to be susceptible. Of the presumed susceptible patients, 30 (93.8%) received a single dose of hepatitis A vaccine, and 2 patients (6.2%) refused vaccination. Of 61 staff in the outbreak unit, 27 (44.3%) also received vaccination. Two additional acute HAV cases (patient C and patient D) were identified during the surveillance period, including 1 patient who received vaccine and 1 patient who had refused vaccination, for a total of 4 acute HAV cases. Patients A through D had symptom onset within 1 month and had clinical signs and symptoms and laboratory results consistent with acute HAV infection (Table 1). The ribonucleic acid (RNA) genotype for patients A through D was 1B, which was indistinguishable from the dominate strain circulating in the concurrent San Diego County hepatitis A outbreak.[8]

Patient A (index) became ill 3 weeks after arriving at this LAC mental hospital and was transferred from a San Diego hospital where his HAV exposure likely occurred. In addition, 3 secondary cases (patients B, C, and D) occurred in persons who had close contact with patient A (n = 1), shared living quarters with patient A (n = 1), and shared a hospital unit restroom with patient A (n = 1). Patients in this hospital were often poor historians, and some had limited verbal abilities; these communication difficulties led to delays in confirming illness, assessing possible exposures, and identifying contacts. Patients also had limited ability to maintain adequate hygiene, which affected

TABLE 1. Demographics, Signs and Symptoms, Laboratory Results, and Hospitalization Days for Hepatitis A Outbreak Cases, Los Angeles County, California, 2018

	Demographics		Signs and Symptoms		Laboratory Results			
Case	Age Range, y	Sex	Onset Day	Signs and Symptoms	AST (U/L)[a]	ALT (U/L)[a]	Bilirubin (mg/dL)	Hospital Days
A	25–29	M	Day 1	Jaundice, yellow sclera, dark urine	1,239	2,618	6.6	1
B	40–44	F	Day 16	Vomiting, lethargic, decreased appetite	945	714	1.5	1
C[b]	65–69	M	Day 26	Vomiting, lethargic, abdominal pain, jaundice	1,176	2,419	10.1	2
D	40–44	M	Day 27	Vomiting, abdominal pain	129	547	1.8	0

NOTE. AST, aspartate aminotransferase; ALT, alanine aminotransferase; M, male; F, female.
[a]Highest measure within 1 week of illness. AST reference range: 5–46 U/L. ALT reference range: 13–69 U/L.
[b]Hepatitis C virus coinfection.

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adherence to communicable disease control measures. Despite these challenged, the implemented control measures (ie, vaccination, enhanced environmental cleaning, closure of the unit to new admissions, and closure of common day areas) during the surveillance period prevented additional cases from occurring, and the hospital unit was re-opened for admissions.

Maintaining a clean and safe environment for this patient population is challenging. The spread of HAV in this hospital was likely due to both close contact with the index patient and contaminated living quarters and hospital unit restroom of the index case. Although similar outbreaks have been identified among adults with developmental disabilities[5] and disabled patients in congregate living situations,[6] outbreaks in mental health facilities are rare.[7] Screening patients in mental hospitals who lack the ability to adhere to hygienic practices and vaccinating susceptible persons on admission may reduce the risk for outbreaks of acute HAV infection in these facilities.

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REFERENCES

1. Prevention of hepatitis A through active or passive immunization. Recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbid Mortal Weekly Rept* 2006; 55:1–23.
2. Viral Hepatitis Surveillance United States, 2015. Centers for Disease Control and Prevention website. https://www.cdc.gov/hepatitis/statistics/2015surveillance/pdfs/2015HepSurveillanceRpt.pdf. Published 2015. Accessed March 14, 2018.
3. Update: Prevention of hepatitis A after exposure to hepatitis A virus and in international travelers. Updated recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbid Mortal Weekly Rept* 2007;56:1080–1084.
4. Morbidity and Mortality Weekly Report. Summary of notifiable diseases. Centers for Disease Control and Prevention website. https://www.cdc.gov/mmwr/mmwr_nd/index.html. Updated November 2, 2017. Accessed March 14, 2018.
5. Bohm SR, MS, Berger KW, Hackert PB, et al. Hepatitis A outbreak among adults with developmental disabilities in group homes—Michigan, 2013. *Morbid Mortal Weekly Rept* 2015;64:148–152.
6. Lim HS, Choi K, Lee S. Epidemiological investigation of an outbreak of hepatitis A at a residential facility for the disabled, 2011. *J Prev Med Public Health* 2013;46:62–73.
7. Fukuta YY. Muder. Infections in psychiatric facilities, with an emphasis on outbreaks. *Infect Control Hosp Epidemiol* 2013;34:80–88.
8. Update #5: Hepatitis A virus outbreak in San Diego County. State of California Health and Human Services website. http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_epidemiology/dc/Hepatitis_A.html. Published August 16, 2017. Accessed March 14, 2018.

Association of an Active Surveillance and Decolonization Program on Incidence of Clinical Cultures Growing *Staphylococcus aureus* in the Neonatal Intensive Care Unit

Staphylococcus aureus remains a leading cause of hospital-acquired infections (HAIs) in neonates.[1] Some neonatal intensive care units (NICUs) use active surveillance cultures (ASCs) and decolonization to prevent methicillin-resistant *S. aureus* (MRSA) transmission and infections.[2] However, methicillin-susceptible *S. aureus* (MSSA) infections occur more frequently and have similar mortality in neonates.[3]

In The Johns Hopkins NICU, prior to April 2013, neonates were screened for MRSA colonization and carriers were decolonized.[4] In April 2013, the program expanded to include MSSA screening and decolonization. Previously, we showed that after implementation of MSSA ASCs and targeted decolonization, *S. aureus* clinical cultures and infections decreased.[4] Our objective was to assess whether the reduction was sustained over 3 years.

METHODS

Using The Johns Hopkins Pathology information system, we retrospectively identified neonates admitted to the NICU between April 1, 2011, and June 30, 2016. Clinical cultures positive for *Staphylococcus aureus* were defined as non-surveillance cultures growing *S. aureus*. Cultures from the same patient were considered unique events if they were collected from the same body site at least 30 days apart or from different body sites at least 14 days apart. NICU-attributable was defined as clinical cultures obtained >2 days after unit