URGENT

EPIDEMIC INTELLIGENCE SERVICE

LATE BREAKING REPORTS

EPIDEMIC INTELLIGENCE SERVICE PRESENTS THE 61ST ANNUAL EIS CONFERENCE AT CROWNE PLAZA HOTEL ATLANTA PERIMETER AT RAVINIA

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

12_227980

APRIL 16 – 20, 2012

Friday, April 20, 2012

10:30 SESSION R: Late-Breaking Reports

The Hangover . . . . . Ravinia Ballroom

MODERATORS: Douglas H. Hamilton and Jacqueline Miller

10:35 Investigation of Nontuberculous Mycobacteria Infections Associated with Tattoos — Seattle, Washington, February–March 2012

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10:45 Broiled, Yet Uncooked: Salmonella Heidelberg Infections Associated with Kosher Broiled Chicken Liver Requiring Further Cooking — Northeastern United States, 2011

W. Thane Hancock

10:55 Rapid Implementation of Statewide Mandate for Pulse Oximetry Newborn Screening To Detect Critical Congenital Heart Disease — New Jersey, 2011

Jill Glidewell

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Christina A. Mikosz

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Timothy S. Styles

11:45 Opportunities for Prevention of Human Rabies from Exposure to Bats in Homes

Emily W. Lankau

The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Investigation of Nontuberculous Mycobacteria Infections Associated with Tattoos —Seattle, Washington, February–March 2012

AUTHORS: Michael H. Kinzer, T. Kwan-Gett, J. Duchin

BACKGROUND: Nontuberculous mycobacteria (NTM) are ubiquitous environmental organisms that cause difficult-to-treat infections after invasive procedures. Millions of U.S. residents receive tattoos annually, and reports of tattoo-associated NTM are increasing. In February 2012, clinicians reported 2 NTM skin and soft-tissue infections among persons recently tattooed at the same parlor. We investigated to determine the outbreak's scope and source.

METHODS: We defined suspected cases as ulceronodular rashes lasting >1 week at the site of a tattoo received during June–December 2011. Suspected cases were confirmed by biopsy and culture. Case finding was through enhanced surveillance among health care providers and clinical laboratories, review of tattoo artist client lists, interviews with ink suppliers, and notification of the tattoo artist community.

RESULTS: Ten suspected and 3 confirmed cases were identified. The same artist had tattooed all patients with the same bottle of black ink during September–October 2011; lesions appeared only in skin tattooed with black ink even in cases with multicolored tattoos. No cases were identified among clients tattooed with previous or subsequent bottles of ink. Cultures from both confirmed cases grew multidrug-resistant *Mycobacteria abscessus/massiliense*. Interviews with the ink manufacturer revealed that ink bottles from the implicated batch had been recalled after reports from multiple states of long-lasting skin reactions.

CONCLUSIONS: A single batch of nationally distributed tattoo ink was the likely source of all cases. The production processes and supply chains of ink manufacturers are complicated, secretive, and unregulated. Clinicians and tattoo artists should consider NTM among persons with infections after tattooing, particularly those that are chronic or unresponsive to antimicrobial treatment, and request that laboratories use CDC-recommended methods to detect NTM.

KEYWORDS: nontuberculous mycobacteria, abscess, tattoo

Broiled, Yet Uncooked: *Salmonella* Heidelberg Infections Associated with Kosher Broiled Chicken Liver Requiring Further Cooking — Northeastern United States, 2011

AUTHORS: W. Thane Hancock, H. Hanson, M. Malavet, P. Pennell, C. Harrison, L. Kornstein, H. Waechter, T. Nguyen, S. Balter, M. Chan, Y. Khachadourian, R. Slayton, J. Lando, B. Kissler, L. Allen, C. Schwensohn, C. Barton Behravesh, I. Williams, L. Gieraltowski

BACKGROUND: *Salmonella* causes approximately 1.2 million illnesses and 400 fatalities annually in the United States. In July 2011, New Jersey Department of Health and Senior Services reported a cluster of *Salmonella* Heidelberg (SHg) infections in an observant Jewish community. PulseNet, a national subtyping network, identified additional SHg isolates with indistinguishable genetic fingerprints. A multi-state investigation was initiated to identify the source of infections and prevent additional illnesses.

METHODS: A case was defined as a person infected with the SHg outbreak strain and onset between 04/01/2011–12/20/2011. Multi-state hypothesis generating questionnaires and opened-ended interviews were conducted. Additionally, New York City (NYC) Department of Health and Mental Hygiene compared food exposures reported on routine enteric questionnaires of 56 NYC case-patients to 1,382 *Salmonella* patients with non-Heidelberg serotypes in their enteric disease database. Environmental food samples were cultured for *Salmonella*.

RESULTS: We identified 190 confirmed cases in 6 states; 19% (29/153) were hospitalized. The NYC comparison found chicken consumption was significantly associated with illness (Odds Ratio=5.1; 95% Confidence Interval=1.84–14.23). Further interviews identified chicken liver as a possible vehicle. Among 39 cases from 3 states with available information, 28 (72%) reported consuming chicken liver in the 7 days preceding illness. Collected retail samples of kosher broiled chicken livers yielded the outbreak strain. Traceback investigations identified a single producer as the source. A recall was issued; the product was discontinued.

CONCLUSIONS: Epidemiologic, traceback, and laboratory evidence identified kosher broiled chicken livers as the outbreak source. The product was labeled as "broiled" suggesting the livers were ready-to-eat, when in fact, they required further cooking. This outbreak illustrates the importance of clear labeling and food handling instructions in preventing foodborne illness.

KEYWORDS: food poisoning, *Salmonella*, disease outbreaks

Rapid Implementation of Statewide Mandate for Pulse Oximetry Newborn Screening To Detect Critical Congenital Heart Disease — New Jersey, 2011

AUTHORS: Jill Glidewell, L. Garg, R. Olney, K. Van Naarden-Braun, C. Hinton

BACKGROUND: Congenital heart disease occurs among ~1% of live births; approximately one-quarter is critical congenital heart disease (CCHD) requiring surgery or catheterization before one year of life. Early intervention is associated with better outcomes. On June 2, 2011, New Jersey (NJ) became the first state to mandate all licensed birthing facilities perform pulse oximetry on neonates to screen for CCHD. Implementation of this mandate was required by August 31, 2011. NJ requested assistance from CDC to evaluate the implementation of this new public health program (Epi-Aid initiated January 2012).

METHODS: To assess tracking capabilities, data flow, and reporting processes, we randomly sampled seven birthing facilities and targeted four additional facilities based on early reports of neonates who did not pass the screening. We conducted interviews with hospital staff and observed screening and data collection procedures at these 11 facilities. We also evaluated available screening and birth defects registry data for the first 3 months of screening.

RESULTS: All facilities assessed were screening for CCHD at the time of evaluation. Preliminary data estimate that 98.3% (25,504/25,955) of neonates were screened for CCHD. Data on abnormal screens were reported to the NJ Birth Defects Registry. Nine neonates were reported to NJ Department of Health and Senior Services, of which two were confirmed CCHD detected initially by pulse oximetry. Methods for collecting screening data differed across facilities; 3/11 (27.3%) maintained data electronically, 5/11 (45.4%) manually, and 3/11(27.3%) both electronically and manually. Facilities were receptive to implementation.

CONCLUSIONS: CDC provided recommendations for improved guidance for data reporting. In the 3 months after implementation, two cases of CCHD were detected that otherwise might have resulted in death or disability.

KEYWORDS: birth defects, congenital heart defects, pulse oximetry, newborn screening

Botulism Cluster Associated with Pre-Packaged Soup — Los Angeles County, February 2012

AUTHORS: Christina A. Mikosz, D. Dassey, M. Kim, L. Mascola

BACKGROUND: Botulism causes a potentially fatal neurotoxin-mediated acute descending paralysis (ADP). Botulism toxin is the most toxic substance known; when suspected, its status as a Category A bioterrorism agent necessitates immediate investigation. In February 2012, the Los Angeles County Department of Public Health (LACDPH) was notified of 2 suspected botulism cases. We investigated to identify the source.

METHODS: We reviewed medical records and interviewed physicians and both patients. Food samples were collected during a home inspection. Food, serum, stool, and gastric aspirate specimens underwent botulism testing locally by mouse bioassay, polymerase chain reaction, and enzyme-linked immunoassay. CDC conducted matrix-assisted laser desorption/ionization time-of-flight testing.

RESULTS: The patients, a cohabitating man and woman, both aged 23 years, experienced acute onset of ptosis, double vision, dry mouth, and difficulty swallowing 4 days after tasting, then discarding, rancid-tasting soup left unrefrigerated after purchase despite package instructions. Both patients visited 3 different medical facilities with progressive ADP without suspicion raised for botulism. On day 6 of illness, the man, whose symptoms were more severe, was hospitalized for dehydration and suspected epiglottitis. Botulism was not considered and LACDPH was not notified until day 9, when he experienced respiratory failure. Although botulism toxin testing was negative, electromyography indicated botulism in both patients. No other cases were identified. Both patients are recovering.

CONCLUSIONS: Both cases were clinically compatible with foodborne botulism, but delayed diagnosis hindered prompt and appropriate treatment and rapid public health investigation of a recognized bioterrorism agent. Providers should consider botulism in the differential diagnosis of ADP and immediately report suspected cases to health officials. Consumers should be educated to follow food storage instructions to prevent potential life-threatening illness.

KEYWORDS: botulism, foodborne illnesses, disease outbreaks, bioterrorism, civil defense

Norovirus Outbreak at a Youth Basketball Tournament in Kentucky — February 2012

AUTHORS: Amy Kolwaite, V. Chiguluri, S. Robeson, K. Humbaugh, R. Desai, A. Hall, D. Thoroughman

BACKGROUND: Norovirus, a highly contagious pathogen, is the leading cause of acute gastroenteritis outbreaks worldwide. In February 2012, the Kentucky Department for Public Health was notified of multiple cases of vomiting and diarrhea among youth basketball players and spectators participating in a 3-day statewide basketball tournament. We investigated to determine the extent and cause of the outbreak to prevent further illness.

METHODS: We defined a case as vomiting or diarrhea ≤72 hours after tournament attendance in coaches, players, spectators and employees. Identified patients were asked about illness history and food and water exposures. Stool specimens were requested for reverse transcription-polymerase chain reaction.

RESULTS: Among 52 teams, 49 (94%) were contacted, representing 573 players. Thirty-six teams (69%) had at least one ill player. The 242 identified cases occurred among 154/573 (27%) players, 11 coaches, 12/46 (26%) employees and 65 spectators. Nineteen (8%) sought medical care and 2 children were hospitalized. Three persons from 3 different teams experienced illness onset before the tournament; 1 vomited courtside in the gymnasium during the tournament's first night. Janitorial staff was never notified. Symptom onset on days 2 and 3 following the courtside vomiting episode occurred in 196 (81%). No common food or water sources were identified. All 6 stool specimens tested positive for norovirus GII.7, an uncommon strain, representing participants from 4 teams.

CONCLUSIONS: The high proportion of teams affected, lack of common food or water sources, and shared genotype indicated person-to-person transmission. The courtside vomiting episode increased opportunity for exposure. Education regarding personal hygiene, exclusion of players experiencing gastroenteritis symptoms ≤72 hours before a sporting event and greater attention to cleaning environmental surfaces can reduce future sports-associated norovirus outbreaks.

KEYWORDS: norovirus, basketball, sports, disease outbreaks

Cluster of Severe *Escherichia coli* O157:H7 Infections Among Young Children — California, 2011

AUTHORS: Joyanna M. Wendt, A. Kimura, J. Lidgard, P. Kennelly, D. Kiang, D. Vugia, D. Gilliss

BACKGROUND: *Escherichia coli* O157:H7 (O157:H7) infection can cause severe illness among children, including hemolytic-uremic syndrome (HUS). In November 2011, the California Department of Public Health (CDPH) identified a cluster of 5 O157:H7 isolates with a matching pulsed-field gel electrophoresis (PFGE) pattern among young children. We investigated to identify the source infection.

METHODS: Cases were identified from CDPH mandatory passive surveillance and defined as culture-confirmed O157:H7 infection among children aged <10 years with symptom onset during July 1–November 30, 2011. We used Fisher's exact test to compare food, activity, and animal exposures among patients with cluster strain O157:H7 and patients with noncluster strain O157:H7. We calculated the cumulative binomial probability of raw (unpasteurized) milk consumption among cluster patients, compared with a 3% FoodNet population estimate for California. Environmental samples from an implicated raw milk dairy were PFGE tested.

RESULTS: Five cluster patients and 47 patients with noncluster strain O157:H7 were identified. Cluster patients were aged 1–5 years; 3 experienced HUS, and 2 required dialysis. All cluster patients had consumed raw milk (all Dairy A) before illness onset, compared with 0 of the noncluster strain patients ($P < .001$). Using FoodNet estimate of raw milk consumption among Californians, the probability of all cluster patients having consumed raw milk before illness onset was 2.4×10^{-8}. Two Dairy A environmental samples yielded cluster strain O157:H7.

CONCLUSIONS: Dairy A raw milk was the likely illness source. Commercially available raw milk and raw milk products have previously been associated with O157:H7 and other bacterial infections. Continued efforts are needed to educate consumers about the inherent risks associated with drinking raw milk, especially among young children.

KEYWORDS: *Escherichia coli* O157; foodborne diseases; hemolytic-uremic syndrome; electrophoresis, gel, pulsed-field

Racial/Ethnic Disparities in Carbon Monoxide Poisoning After a Snowstorm — Connecticut, October 2011

AUTHORS: Timothy S. Styles, P. Przysiecki, G. Archambault, B. Toal, L. Sosa, M. Cartter

BACKGROUND: Using alternative power and heating sources during storm-related power outages has caused carbon monoxide (CO) poisonings. An October 2011 snowstorm triggered prolonged power outages in Connecticut; poison control centers and hospitals noted increased CO poisonings. We characterized storm-related CO poisonings to identify possible interventions.

METHODS: In Connecticut, carboxyhemoglobin levels (COHb) ≥9.0% are reportable to the state health department. We defined cases as COHb ≥9.0% during October 29–November 9 associated with a CO exposure event involving an alternative power or heat source. We interviewed patients or proxy by standardized questionnaire and reviewed medical/death records. We analyzed cases and events by demographic and exposure characteristics.

RESULTS: We identified 134 cases from 72 CO events; 58% were male; median age was 38 years (range: 1–86); 35% were non-Hispanic white (NHW), 29% Hispanic, 17% Asian, 14% non-Hispanic black, 5% other; 5 deaths occurred. All CO events occurred by November 5 and most commonly involved generators (53%), charcoal or charcoal substitute (31%), and propane or kerosene heaters (8%). By race/ethnicity, most common exposure source was charcoal among Asians (73%), generator among NHWs (62%) and Hispanics (61%), and generator and charcoal among non-Hispanic blacks (50% each). Charcoal-related events were 5.3 times more common among affected Asian households than NHW households (95% confidence interval: 2.0–14.0). Overall, 18% of other-than-NHW operators versus 46% of NHW operators recalled hearing or reading CO warnings during the storm or preceding month. Other-than-NHW households (30% of Connecticut's population) comprised 59% of CO events.

CONCLUSIONS: Other-than-NHW households were disproportionately affected by CO poisoning and more likely to have missed CO warnings. Well-targeted, well-timed warning messages and outreach methods are needed to reach diverse populations.

KEYWORDS: hazardous substances, carbon monoxide poisoning, health status disparities

Opportunities for Prevention of Human Rabies from Exposure to Bats in Homes

AUTHORS: Emily W. Lankau, D. Tack, B. Petersen, A. Nakamura, E. Brenner, S. Cox, D. Giurgiutiu, D. Drociuk, C. Rupprecht

BACKGROUND: During 1995-2011, more than 90% of domestically acquired human rabies cases in the US were linked to bats. In December 2011, a female aged 46 years died from infection with a bat rabies virus variant, the first human rabies case in South Carolina since 1959. We reviewed this case to identify opportunities for rabies prevention.

METHODS: The patient's exposure history and illness were summarized using medical records, autopsy results, and interviews with family and physicians. The public health response and process for addressing nuisance wildlife in South Carolina were reviewed. An environmental assessment was performed.

RESULTS: Of 188 community and health care contacts, 22 (12%) received postexposure prophylaxis. Evidence of bats roosting in the attic was noted, although none were present. Family members reported the patient awakened to a bat in her bedroom in August. She reported no direct contact with the bat and did not seek medical attention until she became symptomatic in early December. The patient sought information on bat removal, but did not receive advice regarding rabies risks. Wildlife removal from private homes is an individual responsibility in South Carolina, with resources potentially accessed through multiple governmental and private entities.

CONCLUSIONS: Rabies is preventable by avoiding risky animal contact and promptly receiving postexposure prophylaxis following rabies virus exposure. Lack of access to appropriate guidance concerning bat exposure was possibly a missed opportunity to prevent rabies. We recommend improved communication at the national, state and local levels among entities involved in bat exposure concerns and enhanced outreach to increase public awareness of rabies and methods for excluding bats from homes.

KEYWORDS: rabies, human, prevention, prophylaxis, risk assessment, bats, zoonosis