Perinatally Acquired Chikungunya Infection

The Puerto Rico Experience

To the Editor:

Chikungunya fever is a mosquito-borne disease caused by an alphavirus, belonging to the Togaviridae family. The disease is transmitted by *Aedes aegypti* and *Ae. Albopictus* mosquitoes. Usual manifestations of acute disease include high fever and severe joint pain. Patients can also have headache, diffuse back pain, myalgia, polyarthritis, rash and conjunctivitis.[1] Most infections that occur during pregnancy will not result in the virus being transmitted to the fetus.[2] But when infected during the intrapartum period, vertical transmission rate is as high as 50%.[2,3]

There are few reports of chikungunya vertical transmission,[2–4] none of them in the Western Hemisphere. Chikungunya fever was first identified in Puerto Rico during 2014, and the outbreak prompted characterization of the clinical manifestations and laboratory findings of intrauterine-exposed fetuses and development guidelines for their neonatal management.

A retrospective medical record review was performed from the hospital stay of infants born to mothers with chikungunya-like symptoms from August 2014 to January 2015. We included infants admitted to the University Pediatric Hospital, UPR Carolina Hospital and San Juan City Hospital, Neonatal Intensive Care Units in Puerto Rico. Data collected included perinatal data such as maternal symptoms and laboratory data from 5 days before and after delivery, and neonatal symptoms and laboratory data during the first 10 days of life.

A total of 10 newborns were admitted from mothers with chikungunya-like symptoms in this period. In 7 of the newborns, the mothers had symptoms within 5 days from delivery. The most prevalent symptoms in these babies (50%) were irritability and eczema. Other symptoms included fever (40%), general malaise (40%), apnea (40%), tachypnea (40%), poor sucking (30%), cyanosis (30%) and peripheral edema (30%). Laboratory data revealed leukopenia (30%), leukocytosis (10%), thrombocytopenia (30%), low albumin (40%), elevated aspartate aminotransferase (40%), elevated alanine aminotransferase (10%), prolonged prothrombin time (10%) and prolonged partial thromboplastin time (40%).

Three patients were admitted from mothers with symptoms more than 5 days after delivery. In these patients, symptoms like fever and irritability were not present, but they presented with congenital anomalies like hydrocephaly and brain infarct. Of those mothers with intrapartum symptoms, 70% of the infants became symptomatic, which is larger than previously reported in the literature.

The recent emergence of chikungunya in United States has added a new tropical febrile viral disease, which impacts susceptible women in childbearing age and with a possibly high rate of vertical transmission. Understanding the clinical manifestations and laboratory findings allows physicians to develop medical protocols to provide the appropriate treatments for affected newborns. Close monitoring of these infants will provide us valuable information regarding long-term sequelae including developmental delays.

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Varicella Complications in Unvaccinated Children and Delay in Hospital Admission

To the Editor:

We have read the report by Popescu et al,[1] recently published. The authors reported on 1302 hospitalizations for varicella in patients younger than 30 years with 20.3% respiratory complications and 4.6% neurologic complications.

We retrospectively reviewed 404 medical records of children hospitalized for varicella from January 2004 to November 2011 at Bambino Gesù Children Hospital, Roma, Italy. Neurologic complications occurred in 21.7%. The pooled prevalence of neurologic complications resulting from a systematic review of the literature from January 1990 to January 2012 identified the likelihood of pediatric neurologic complications in the 13.9%–20.4%.[2]

We speculate that the different incidences in neurologic complications may be due to the age of patients included in the study, to a different sociodemographic structure of the population or to different hospitalization policies.

Finally, the authors show the highest rate of hospitalizations in years 2011 to 2013 resulting from varicella complications. They speculate that this should be the consequence of the economic crisis, "with long working hours for parents limiting early presentation for care."[1]

We speculate that the delay in hospital admission can be due to a public perception of varicella infection as a harmless childhood affliction. In fact, media are known to be able to influence the population even on health decisions. In particular, the use of the internet to search for medical and health-related information is increasing. Unfortunately, it is associated with concerns about both the quality and the safety of immunization policy and of medical treatment.[3] Finally, pediatricians may have underestimated the potential risk of varicella, considering it a benign acute disease, possibly contributing to the delay of primary care.[4]

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Current Abstracts

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Health Care-associated Hepatitis A Outbreak—Texas, 2015

Wiseman R, Weil LM, Lozano C, et al. MMWR. 2016;65:425–426.

On August 27–28, 2015, the Texas Department of State Health Services received calls from Fort Bend County and Harris County health departments requesting postexposure prophylaxis (PEP) recommendations for contacts of 2 nurses (patients A and B) with confirmed hepatitis A virus (HAV) infection. Both nurses had symptom onset during August 15–19 and worked for the same pediatric home healthcare agency in another jurisdiction. Because of the proximity of the onset dates, a common source exposure was suspected.

During their incubation and infectious periods (August 1–28), patients A and B cared for a total of 12 children but had only 1 patient in common (a hepatitis A (hepA)-vaccinated pediatric transplant recipient), and there were no other common exposures. Because the 2 nurses worked shifts of 10–12 hours in patients' homes using standard precautions, sharing bathrooms and consuming food and beverages, all residents and other nurses providing care in the homes were considered exposed.

The Centers for Disease Control and Prevention recommends PEP, consisting of a single-dose of monovalent hepA vaccine or immunoglobulin (0.02 mL/kg), within 2 weeks of exposure to HAV for previously unvaccinated persons. HepA vaccine is preferred for healthy persons aged 12 months to 40 years. Two of the 12 exposed children were not fully vaccinated; 1 was aged <1 year and was given immunoglobulin, the other had previously received 1 dose of hepA vaccine and was given the second dose. Among a total of 42 potentially exposed home healthcare nurses, 31 (74%) were not vaccinated against HAV. Two unvaccinated nurses received hepA vaccine for PEP; the remaining unvaccinated agency nurses and household contacts were identified outside the recommended 2-week window for PEP. No additional cases were reported.

On September 8, 2015, the Texas Department of State Health Services sent serum specimens from patients A and B and their shared patient to Centers for Disease Control and Prevention for HAV RNA detection and molecular sequencing. All 3 specimens had detectable HAV RNA with genetically identical sequences, confirming the child as infected with HAV (patient C).

Comment: Hepatitis A is a highly contagious, self-limiting infection of the liver, spread through the fecal-oral route. Healthcare personnel are not considered at high risk for HAV infection because nosocomial hepatitis A infrequently occurs. Transmission to healthcare personnel usually occurs when the source patient has unrecognized hepatitis and is fecally incontinent or has diarrhea. Although standard precautions are recommended for healthcare personnel working with diapered or incontinent patients without an infectious etiology for their symptoms, contact precautions are recommended when HAV or another infectious etiology is suspected or confirmed.