MRSA in Nurseries Blamed on Bad Hand Hygiene

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Outbreaks of community-associated methicillin-resistant *Staphylococcus aureus* among healthy, term newborns in Chicago and Los Angeles County hospitals probably originated in the newborn nursery and illustrate the critical importance of consistent hand hygiene, the Centers for Disease Control and Prevention reported.

The CDC helped local health departments in both locations conduct independent investigations into the outbreaks, both of which occurred in 2004. In both outbreaks, the MRSA was a community-acquired rather than a health care–acquired strain.

The Chicago hospital had a cluster of MRSA infections that led authorities to discover 11 cases, of which 9 (82%) were in infants delivered by cesarean section (MMWR 2006;55:329-32).

Nine of the infants were male.

Symptoms were pustules, vesicles, and/or blisters on areas including the neck, groin, perineum, ears, and legs; most patients had lesions on more than one site.

Median age at symptom onset was 7 days, and symptom onset occurred a median of 5 days post discharge from the newborn nursery. The infants were treated with topical antimicrobials in 10 cases, and 3 of those were treated with concomitant oral antimicrobials. One was hospitalized. All 11 infants recovered without incident, the CDC reported.

A subsequent investigation found that one physician and one nurse had nasal MRSA colonization.

Both were restricted from work and required to undergo a course of intranasal mupirocin and to then test negative for MRSA.

In the Los Angeles County hospital, 11 cases of infection were discovered in two clusters. All were male newborns, and 7 of the 11 (64%) were delivered via C-section. All the infants had pustular/vesicular lesions in the groin area occurring a median of 3 days after nursery discharge. The median postdelivery stay was 4 days, as in the Chicago cases.

In contrast to the Chicago outbreak, 8 of these 11 infants were hospitalized. They were treated with parenteral antimicrobials and recovered without incident. The remaining infants were either treated with topical antimicrobials or not treated. Laboratory tests showed that the MRSA strain was the same one as in the Chicago outbreak.

Unlike the Chicago hospital, however, the Los Angeles County hospital chose not to test its health care workers for MRSA, reasoning that no employee had more infant contact than the others.

Staff members were instructed regarding proper hand hygiene, and all patient contacts were subsequently required to wear gloves and gowns. A policy of bathing newborns with antibacterial soap before discharge also was begun, and the frequency and intensity of the environmental cleaning of the nursery was reportedly increased.

The editors noted that these cases were similar to cases in a New York City hospital in 2002, in which a community-acquired strain of MRSA was the source of infection in six newborns.

They also observed that male gender has been found to be a risk factor for staphylococcal infection in newborns and that most of the infants in this report were delivered via C-section, which requires a longer hospital stay—although they cautioned that the role of this factor is unclear.

They speculated that the moist environment and friction in the diaper area, where lesions were common, might be a breeding ground for *S. aureus*.

The CDC recommended that hospitals emphasize transmission-prevention methods and promote frequent dressing changes for infants with skin infections. The agency also advised that when MRSA appears, hospitals should review and reinforce infection-control measures in all newborn nurseries and consider requiring all persons coming into contact with the infants to be checked for skin lesions.

The need for universal use of gowns and gloves, antiseptic bathing of newborns, and surveillance cultures of health care workers and the environment is less clear, the CDC said.

Additional information regarding MRSA infections is available at http://www.cdc.gov/ncidod/dhqp/ar_mrsa.html. ■

References: 1. Centers for Disease Control and Prevention. Preventing tetanus, diphtheria, and pertussis among adolescents: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP). Early Release 2006;55(February 23, 2006):1–43. **2.** Centers for Disease Control and Prevention. Recommended childhood and adolescent immunization schedule—United States, 2006. *MMWR.* 2006;54(51&52):Q1–Q4.