

ID CONSULT

What We'll Be Discussing in 2011

It's hard to believe that it is time to ring in the New Year already! In last year's review column (January 2010, p. 9), the predictions hit the mark on many counts. (My partner, Dr. Angie Myers, calls me "the Amazing Kreskin.")

In 2010, we did indeed learn valuable lessons from H1N1 influenza. In many hospitals, the national mandate for health care workers and influenza vaccine became a reality. The new palivizumab guidelines and the use of hepatitis A and 13-valent pneumococcal conjugate vaccine have been implemented, and we continued to see a decline in meningococcal and rotaviral infection.

Clindamycin resistance rates have increased, although we have not seen the rise in vancomycin intermediate or resistant *Staphylococcus aureus*, the prospect of which made me wonder if this drug would become passé.

For 2011, I think we will be seriously talking about the following topics:

► **HPV completion rates for teenage girls.** Dr. Lee E. Widdice of Cincinnati Children's Hospital and colleagues noted that only 14% of 3,297 girls completed their vaccine on time, and only 28% within a year of starting the vaccine. The rate of on-time vaccine completions was significantly less for nonwhites, raising concern for the impact of this health care disparity on the epidemiology of cervical cancer (*Pediatrics* 2010 Dec. 13 [doi:10.1542/peds.2010-0812]).

Investigators at National Institutes of Health-based vaccine evaluation and treatment units across the country are looking at whether the immunogenicity of vaccine is adequate in teens who receive their doses later than recommended. Additional research into the health care disparity issues should be targeted in future studies.

► **Is the epidemiology of RSV changing?** As of late December here in Kansas City, we saw only a modest number of

infants hospitalized with bronchiolitis. The onset of respiratory syncytial virus across most of the United States is usually in early to mid-November (MMWR 2010;59:230-3).

Dr. Denise Bratcher and I looked at 10

RSV seasons in our institution, and the average onset was indeed Nov. 5 (except in one season when disease began in mid-January), indicating that 2010 was a remarkably slow year for us in terms of RSV disease. Could prevention of influenza with wide scale use of influenza vaccine be impacting RSV rates?

► **Judicious use of antibiotics will be front and center in the office setting.** Prac-

titioners will increasingly be scrutinizing their use of antibiotics to ensure appropriate use by making the correct diagnosis and prescribing the most narrow-spectrum efficacious drug available.

If you want to evaluate antibiotic use in your practice, start with streptococcal pharyngitis. Ensure that you are doing streptococcal testing in the appropriate patient, using amoxicillin as your first-line drug and determining who has a valid penicillin allergy and really requires an alternative agent. Of those who self-report a history of allergy, 90% are not allergic (*JAMA* 2001;285:2498-505).

► **No more tuberculin skin testing in patients older than 5 years?** Interferon-based tuberculin testing (a simple, albeit expensive, blood test) has proved especially valuable for the older patient who has either just come to the United States (and previously received BCG vaccine), has returned from traveling overseas to a TB-endemic country, or is beginning work in a health care field.

There is a lot of upside to these new tests, although I suspect we will learn more as they become routine and are used on a large scale for the evaluation of health care personnel. However, they have produced indeterminate results in a small subset of health workers. As we learn

more about the reliability of such tests as a population-screening tool, I suspect we will see additional recommendations.

► **Is MRSA going away?** It seems that we are seeing fewer children presenting to our emergency department with skin and soft-tissue abscesses, and fewer patients presenting to our infectious disease clinic with recurrent infection. Practitioners may just be getting used to doing the evaluation and treatment of such patients themselves, but the number of children we treat for more serious skeletal infection does not seem to be decreasing. Upcoming evidence-based MRSA-management guidelines from the Infectious Disease Society of America (IDSA) will cover everything from neonatal pustulosis to invasive infection.

► **Is a new cholera vaccine needed?** The devastating effect of the ongoing cholera outbreak in Haiti has raised discussion regarding the need for a more efficacious and readily available cholera vaccine. As of late December, 58,190 hospitalizations and 2,535 deaths have been reported in Haiti. Check out an eloquently written commentary detailing the potential role of the United States in stockpiling and distributing cholera vaccine in cholera-distressed regions of the world (*N. Engl. J. Med.* 2010;363:2279-82).

► **Will we have pertussis outbreaks because of reduced vaccine efficacy related to improper storage?** Researchers have confirmed that inadvertent freezing of DTaP vaccine (which inactivates the acellular pertussis component) occurred frequently in 54 refrigerators used in the Texas county health system. Typically, this occurred on weekends and at night when the appliances became excessively cold because they were not being opened for retrieval of doses. Investigators were able to correlate the risk of frozen vaccine with increased pertussis rates in specific regions (*Am. J. Public Health* 2011;101:46-7). Could tackling the problem of continued pertussis outbreaks be as simple as better temperature regulation?

► **Could standard-dose amoxicillin**

return for treating otitis media? The epidemiology of pneumococcal disease will continue to evolve following implementation of PCV13. In a few more years, we could potentially see eradication of multidrug-resistant serotype 19A with replacement by other serotypes that are penicillin susceptible. Dr. Doug Swanson from my section has been serotyping our strains for several years, and now is seeing previously uncommon types that are nearly all penicillin susceptible.

► **IDSA guidelines for treatment of pediatric community-acquired pneumonia are coming your way soon.** They are evidence based and have been formulated specifically for the pediatric patient. Look for highlights to include guidance regarding situations in which to obtain blood culture and chest radiography, the first-line agent of choice, and how to identify and handle the patient with complicated disease.

► **More complicated *Clostridium difficile*-associated diarrhea (CDAD) makes its way to the pediatric patient.** About 2 years ago, when we looked at several years of data to document the epidemiology of CDAD in our pediatric population, we had not encountered many cases of severe CDAD that was associated with increased mortality and a reduced effectiveness of metronidazole.

Recently, however, we cared for an otherwise healthy child with fulminant colitis who was referred for concern that her disease would necessitate emergency colectomy. Fortunately, she recovered without surgery. I fully suspect that community-acquired CDAD without prior antibiotic use will become more familiar to the pediatric practitioner.

My best wishes to you all for a year filled with goodness and peace! ■

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MARY ANNE JACKSON, M.D.

Equipment Soaked in Alcohol May Harbor Adenovirus

BY M. ALEXANDER OTTO

FROM THE ANNUAL MEETING OF THE INFECTIOUS DISEASES SOCIETY OF AMERICA

VANCOUVER, B.C. – An adenovirus outbreak in a Chicago neonatal intensive care unit led to an important realization about infection control.

"Soaking ophthalmology equipment in 70% isopropyl alcohol – which is commonly done in NICUs for retinopathy of prematurity equipment – is probably not sufficient to eradicate adenovirus contamination," said Dr. Emily Mawdsley of the University of Chicago.

Seven infants in the NICU developed adenovirus keratoconjunctivitis in March 2009; four more with the condition, soon identified, had recently been discharged.

"Our initial call was to the pediatric ophthalmologist. He told us that he was at home sick with conjunctivi-

tis," said Dr. Mawdsley, who works in the university medical center's infectious diseases and global health section.

"After a discussion with him, he recalled that a pediatric ophthalmology resident had [recently] worked with symptomatic conjunctivitis. He'd been sent home, but not until after he had seen a few patients in the NICU," she said.

All the infants had recently been examined for retinopathy of prematurity. Virus typing by the Centers for Disease Control and Prevention revealed that the infants had the same virus strain as did the resident.

"So we took a look at the ophthalmology equipment," said Dr. Mawdsley, to see if that was the transmission vector.

Scleral specula and ocular depressors, which were reused on the unit after being soaked for 10-30 minutes in 70% isopropyl alcohol, were positive for adenovirus

on polymerase chain reaction assay. They had been set aside in a sterile bowl several days earlier.

The ophthalmology cart handles, miscellaneous supply bags, a lens case, a headlight and battery pack, the contents of an eye spray irrigation bottle, and the alcohol bottle used for disinfection were also positive for adenovirus. Three samples grew live virus.

To keep the virus in check, NICU staff started to clean equipment and surfaces with bleach or quaternary ammonium wipes and nurses wore gloves and gowns during their shifts. Sick children were segregated from well children and contact precautions were used, among other measures.

The outbreak was contained within a few weeks. Previously ill infants returned negative viral cultures, and the unit reopened to transfers.

Dr. Mawdsley said she has no disclosures. ■