

# Lumbar Puncture for FSFS Is Questioned

BY DIANA MAHONEY

New data indicating that a first simple febrile seizure in infants and young children rarely signals bacterial meningitis suggest that the American Academy of Pediatrics' recommendation of lumbar puncture in this population should be reconsidered, according to investigators from Children's Hospital Boston.

In its 1996 practice parameter for the neurodiagnostic evaluation of children with a first simple febrile seizure (FSFS), the American Academy of Pediatrics recommended that lumbar puncture be strongly considered for infants younger than 12 months of age, and that it be considered for those between 12 and 18 months of age who present within 12 hours of the event. The rationale for the recommendation was that bacterial meningitis commonly presents with seizure, and the identification of subtle signs of the infection via clinical assessment can be difficult and is dependent on the skill level and experience of the clinician (Pediatrics 1996;97:769-72).

To determine compliance with the AAP recommendations and to assess the rate of bacterial meningitis in young children, Dr. Amir A. Kimia and colleagues in the division of emergency medicine at Children's Hospital Boston performed a retrospective cohort review for patients aged 6-18 months who were evaluated for FSFS in the hospital's emer-

gency department (ED) between October 1995 and October 2006. Of the 71,234 ED visits for children aged 6-18 months during the study period, 704 were for otherwise healthy children presenting with FSFS, including 188 for children younger than 12 months and 516 for children aged 12-18 months.

Lumbar puncture was attempted in 271 of the 704 (38%) children, and cerebrospinal fluid (CSF) was successfully obtained in 260 of them, including 131 of the children aged at least 6 months but younger than 12 months and 129 of the 12- to 18-month-olds. Cerebrospinal fluid pleocytosis was found in 10 of the 260 samples and no pathogen was identified in CSF cultures.

"None of the 10 patients with CSF pleocytosis had isolation of bacteria from blood cultures," they reported, and "none of the 704 patients with FSFS returned to the hospital with a diagnosis of bacterial meningitis" (Pediatrics 2009;123:6-12). Among the remaining 70,530 children aged 6-18 months without FSFS who were seen in the ED during the same period, 8 were diagnosed with bacterial meningitis, they noted.

When compliance with the AAP rec-

ommendations was considered, the performance of lumbar punctures during the study period decreased significantly, from 70% for infants younger than 12 months old to 25% for infants aged 12-18 months, according to Dr. Kimia and associates, who also observed that "rates of [lumbar puncture] performance decreased over time in both age groups."

The 38% rate of lumbar punctures performed at Children's Hospital Boston, a pediatric tertiary care facility, was significantly higher than that which has been reported for children aged younger than 18 months who received care in community EDs, the authors noted.

This fact—combined with the finding that it is very rare for bacterial meningitis to present as FSFS—suggests that the AAP practice parameters "have limited utility," the authors wrote. Given the lack of evidence to support a recommendation of lumbar puncture for first simple febrile seizures in young children, "the [AAP] recommendations should be changed to state simply that meningitis should be considered in the differential diagnosis for any febrile child and [lumbar puncture] should be performed if there are clinical signs or symptoms of concern."

**None of the 704 patients with a first simple febrile seizure returned to the hospital with a diagnosis of bacterial meningitis. Eight with bacterial meningitis did not have FSFS.**

The chair of the American Academy of Pediatrics Committee on Pediatric Emergency Medicine, Dr. Kathy N. Shaw, disagreed with the authors' conclusion.

"A lumbar puncture should be considered in all children who present with a simple febrile seizure," Dr. Shaw said in an interview. In fact, she noted, "the possibility of meningitis should always be considered in the emergency department evaluation of young, febrile infants. The younger the age, the more difficult it is to use clinical judgment alone, and the lower the threshold for performing a lumbar puncture. This statement is true regardless of whether the infant had a seizure or not."

Regarding the authors' suggestion that the AAP remove the word "strongly" from the recommendation for lumbar puncture for infants aged at least 6 months but younger than 12 months, "data from a single academic institution, especially one staffed by pediatric emergency medicine specialists who evaluate febrile infants in the acute setting routinely, [are] not enough to change recommendations," said Dr. Shaw, a professor of pediatrics at the Children's Hospital of Philadelphia.

Dr. Kimia and associates did acknowledge that sound clinical judgment and erring on the side of caution should always prevail "when evaluating any febrile child for whom the presence of bacterial meningitis is being considered."

The authors reported having no relevant financial conflicts of interest. ■

## Upsurge Seen in Pediatric Head/Neck MRSA Infections

BY MARY ANN MOON

The number of pediatric head and neck infections caused by methicillin-resistant *Staphylococcus aureus* shot up at an "alarming" rate across the United States between 2001 and 2006, according to a recent report.

Sixty percent of these MRSA cases were community acquired rather than nosocomial, and nearly half were resistant to clindamycin—reversals of the patterns that methicillin-resistant *S. aureus* (MRSA) infections have shown until now.

"Expedient culture of suspected head and neck infections is highly recommended to avoid further resistant patterns," said Dr. Iman Naseri of the department of otolaryngology, head and neck surgery, at Emory University, Atlanta, and his associates (Arch. Otolaryngol. Head Neck Surg. 2009;135:14-6).

The investigators used a national microbiology database to assess trends in MRSA prevalence, "in light of the clinical and epidemiologic concerns regarding increasing [anecdotal] reports of MRSA nationally." The database includes strain-specific

antimicrobial drug resistance test results from clinical laboratories that serve more than 300 hospitals.

Dr. Naseri and colleagues reviewed the reports on 21,009 patients aged 0-18 years (mean age, 7 years) whose head and neck infections were cultured between 2001 and 2006. The cultures were taken from the oropharynx/neck (60%), nasal or sinus cavity (38%), and middle or external ear (2%).

Overall, a total of 4,534 samples (22%) were infected with MRSA. In 2001, approximately 12% of *S. aureus* infections were methicillin resistant. This proportion rose steadily during the 5 years of the study to more than 28%.

Approximately 60% of these MRSA infections developed in outpatients, suggesting that community-acquired MRSA may now be more common than hospital-acquired infection.

Also, about 47% of the MRSA infections were resistant to clindamycin. Previously, 93% of community-acquired MRSA has been susceptible to clindamycin, Dr. Naseri and his associates reported. ■

## Terbinafine Is Deemed an Attractive Option for Treating Tinea Capitis

BY BRUCE JANCIN

MAUI, HAWAII — Oral terbinafine as first-line therapy for tinea capitis offers an unequalled combination of a good cure rate, fast results, minimal adverse events, and a stunningly low cost, according to Dr. Bernard A. Cohen.

"You can get a 30-day supply of terbinafine in my community at Wal-Mart for \$4," Dr. Cohen said at the annual Hawaii dermatology seminar sponsored by Skin Disease Education Foundation.

Compliance is a major issue in treating tinea capitis because the drugs have lengthy treatment durations. However, a course of terbinafine (Lamisil) lasts only about half as long as a course of griseofulvin, and that's an important consideration, noted Dr. Cohen, director of pediatric dermatology at Johns Hopkins Children's Center, Baltimore.

"Terbinafine and griseofulvin are the two drugs I use most often in my practice. Since compliance is an issue, and I think 6 weeks of treatment is a lot easier than 2.5-3 months of treatment, and I have to get proof-of-cure cultures in the kids I treat with griseofulvin, Lamisil simplifies my life. When I can use it as a first-line drug, I will. There are some situations where I'm going to use griseofulvin, though—like in a white kid with a *Microsporum canis* infection," Dr. Cohen explained.

Terbinafine, approved by the Food and Drug Administration in 2007 for the treatment of tinea capitis, is more effective for treating *Trichophyton tonsurans*—the No. 1 cause of the infection—than for treating *M. canis*, he said. The FDA has approved terbinafine for use in children older than age 4 years, and recommends a pretreatment liver function test.

Dr. Cohen prescribes a single daily 250-mg tablet of terbinafine in children weighing more than 40 kg, half a tablet in those weighing 20-40 kg, and one-quarter tablet in children weighing less than 20 kg. For younger patients, he simply has the family halve or quarter a generic tablet, use a spoon to crush the appropriate portion against a cutting board, and sprinkle the medication in the child's food. Acidic foods interfere with the drug's absorption, though, so terbinafine shouldn't be mixed into applesauce.

Although the approved griseofulvin dosage is 11 mg/kg per day, today most pediatric dermatologists find it necessary to prescribe 15-20 mg/kg per day in order to obtain good efficacy. That may be in part because of the development of increasing resistance to the antifungal during the last several decades, but probably has more to do with compliance considerations. He disclosed having no relevant financial conflicts of interest. SDEF and this newspaper are owned by Elsevier. ■