Treat Bilateral AOM With Antibiotics in Toddlers

For children younger than 2 years but with AOM in only one ear, the benefit was much more modest.

BY JANE SALODOF MACNEIL
Southwest Bureau

SAN FRANCISCO — Children younger than 2 years with acute otitis media in both ears constitute the pediatric population most likely to benefit from antibiotic treatment of this common childhood infection, according to the findings of a meta-analysis presented at the annual meeting of the Pediatric Academic Societies.

"For most other children—older children and children with unilateral acute otitis media—an observational policy seems justified," said Maroeska M. Rovers, Ph.D., the lead author of the study.

Dr. Rovers, an epidemiologist in the Julius Center for Health Sciences and Primary Care at the University Medical Center Utrecht (the Netherlands), based this conclusion on the experience of 824 untreated children in the control groups of six randomized trials in the metaanalysis.

Untreated children younger than 2 years with bilateral acute otitis media (AOM) were twice as likely to suffer pain and/or fever at 3-7 days, according to Dr. Rovers and her coinvestigators. She reported that the independent predictors of having pain at 3-7 days were an age younger than 2 years (odds ratio 2.07) and bilateral AOM (odds ratio 1.70).

More than half (55%) of 134 children younger than 2 years with bilateral AOM still had pain and/or fever in the target time period, she said. Only 30% of similar children suffered from these symptoms 3-7 days after receiving antibiotic treatment in the six trials.

Dr. Rovers said a need-to-treat analysis found that giving antibiotics to just four children younger than 2 years with bilateral AOM would be enough to prevent pain and/or fever in one child.

For children who were younger than 2 years but had AOM in only one ear, the benefit was much more modest. Of 132 untreated children, 40% continued to have symptoms vs. 35% of their counterparts who were given antibiotics in the trials. Dr. Rovers said that physicians would need to give antibiotics to 20 children with unilateral AOM in this age group to prevent prolonged pain and fever in one child.

Among untreated children 2 years of age and older, 86 had bilateral AOM. More than a third (35%) continued to have fever and/or pain in the 3-7 day window.

For older children and those with unilateral AOM 'an observational policy seems justified.'

DR. ROVERS

As symptoms persisted in 23% of comparable children who were treated with antibiotics, Dr. Rovers said that physicians would have to give antibiotics to nine children with bilateral AOM in this age group to prevent extended pain and fever in one child.

Most older children with unilateral AOM had neither pain nor fever at 3-7 days; only 26% of 308 children in the control groups and 19% of those treated with antibiotics continued to suffer these symptoms. Physicians would have to treat 25 children with antibiotics to prevent late pain and fever in one older child with unilateral AOM, according to the need-to-treat analysis.

Dr. Rovers said the randomized controlled trials were conducted in the United Kingdom, the United States, Canada, and the Netherlands. They were selected from 19 randomized trials found by the multinational group of investigators. Data were not available for four trials, she said, and nine were excluded for such reasons as inadequate randomization, special population, or lack of information on the outcome studied in the metaanalysis.

Demographic data on the 824 untreated children available for the analysis showed that 35% were younger than 2 years old, half were boys, and 27% had bilateral AOM. At the outset of the trials, 35% had fever and 88% had ear pain.

In an interview at the meeting—which was sponsored by the American Pediatric Society, Society for Pediatric Research, Ambulatory Pediatric Association, and American Academy of Pediatrics—Dr. Rovers said she felt confident that the results are "quite stable."

Dr. Rovers added that she hoped the findings would be helpful to physicians trying to discriminate between children with mild, self-limiting episodes of AOM and those who are at risk of prolonged illness and possibly complications if not treated with antibiotics. ■

Corticosteroids, Antihistamines Fail to Help Acute Otitis Media

BY ROBERT FINN
San Francisco Bureau

SAN FRANCISCO — Although it may seem logical that corticosteroids, antihistamines, and/or decongestants may be good adjunctive treatments of acute otitis media, the evidence does not bear this out, Dr. Tasnee Chonmaitree said at the annual meeting of the Pediatric Academic Societies.

The rationale for using corticosteroids and antihistamines is clear: Drugs that can inhibit the synthesis or counteract the actions of inflammatory mediators should help improve the outcome—or at least provide some symptom relief—in acute otitis media (AOM), said Dr. Chonmaitree of the University of Texas, Galveston.

Corticosteroids, for example, inhibit the recruitment of leukocytes and monocytes to the affected area, reduce vascular permeability, and inhibit the synthesis or release of numerous inflammatory mediators and cytokines. Moreover, there is evidence that corticosteroids improve outcomes in otorrhea in children and AOM in animal models.

But two randomized controlled trials conducted by Dr. Chonmaitree and her colleagues demonstrated no clear benefit for corticosteroids and antihistamines alone or in combination in patients taking antibiotics. Both studies had four arms. Some patients received two placebos, some received one placebo plus corticosteroid, some received one placebo plus antihistamine, and some received corticosteroid plus antihistamine.

The first study involved 80 patients, aged 3 months to 6 years, who were followed for 3 months. There were no differences in laboratory values, including levels of histamine and leukotriene B4 that could be attributed to either of the drugs. However, corticosteroid treatment was associated with a lower rate of treatment failure within the first 2 weeks and a shorter duration of middle ear effusion.

A second trial followed 180 high-risk children with at least two previous episodes of AOM for 6 months. There were no statistically significant differences in the percentage of patients experiencing treatment failure in the first 2 weeks. But there was a significant difference in the duration of middle ear effusion. This difference favored placebo.

Patients receiving placebo alone experienced a median of 25 days of middle ear effusion. Patients receiving antihistamine alone experienced middle ear effusion for a median of 73 days, almost three times longer. Patients taking corticosteroid alone had about the same duration of effusion as did the placebo patients, and patients taking antihistamine and corticosteroid experienced a median of 36 days of effusion. The conclusion was that antihistamines actually prolong middle air effusion in patients with AOM and thus should not be used. The Cochrane Collaboration conducted a detailed metaanalysis on the use of antihistamines and/or decongestants in AOM and came to similar conclusions (Cochrane Database Syst. Rev. 2004;[3]:CD001727). ■

Rifaximin-Loperamide Combo Knocks Out Traveler's Diarrhea

BY BETSY BATES
Los Angeles Bureau

LOS ANGELES — A combination of rifaximin and loperamide, taken at the first sign of traveler's diarrhea, is the optimal way to treat an illness that affects 10 million American tourists a year, Dr. Herbert L. DuPont said at the annual Digestive Disease Week.

Rifaximin, a gut-selective antibiotic, and loperamide, an antimotility agent, were tested alone and in combination in a randomized trial of 315 U.S. college students who developed acute diarrhea and at least one symptom of an enteric infection while studying in Mexico.

"The Imodium [loperamide] immediately stopped the diarrhea and the antibiotic cured the disease," Dr. DuPont said in an interview during the meeting.

"If they took Imodium alone, they got immediate improvement, but then they continued to be sick. Rifaximin by itself was slow to get going, but it cured the disease after 24-30 hours," he said.

"The combination zapped the thing rapidly and cured it, so we think it's probably the optimal way to manage traveler's diarrhea," said Dr. DuPont, professor of medicine and epidemiology at the University of Texas, Houston, and chief of internal medicine at St. Luke's Episcopal Hospital, also in Houston.

The participants were assigned to receive either 200 mg of rifaximin three times daily for 3 days; 4 mg of loperamide initially, followed by 2 mg after each unformed stool, not to exceed 8 mg/day for 48 hours; or both of these regimens simultaneously.

During the 5-day study period, more than 75% of the students receiving rifaximin or the drug combination achieved a clinical cure, compared with 58% of those receiving loperamide alone.

The time from initiation of treatment to the passage of the last unformed stool was also shorter in patients taking the drug combination (27.3 hours) or rifaximin alone (32.5 hours) than with loperamide alone (69 hours), he reported.

Loperamide and the drug combination resulted in significantly fewer stools passed in the first 24 hours, but in the case of loperamide alone, the effect was transient.

Abdominal cramps were less frequent in patients taking the rifaximin-loperamide combination.

Finally, the participants' assessment of "complete wellness" was higher with rifaximin and the rifaximin-loperamide combination. All of the treatments were well tolerated.

In the poster presentation, Dr. DuPont concluded that the drug combination "provides clinically relevant benefits vs. either agent alone, providing more rapid symptom relief and clinical cure…[possibly representing] a new standard of care."

Loperamide is available over the counter, and rifaximin is FDA approved for traveler's diarrhea. Salix Pharmaceuticals Inc., maker of rifaximin, provided funding for the study. ■