

Otitis Research Supports New AAP Guidelines

BY MARY ANN MOON

FROM JAMA

Findings from a systematic review of the literature published through July 2010 will support the new acute otitis media practice guidelines now being prepared by the American Academy of Pediatrics, according to a recent report.

Experts looked to the latest results on AOM diagnosis, the changing microbial epidemiology associated with introduction of the heptavalent pneumococcal conjugate vaccine (PCV7) vaccine, the decision about whether to treat with antibiotics, and the comparative effectiveness of various antibiotics to inform the upcoming AAP practice guideline – an update of their 2001 study that was the basis of the 2004 AAP–American Academy of Family Physicians joint practice guideline on AOM, said Dr. Tumaini R. Coker of the University of California, Los Angeles, and the RAND Corp., Los Angeles, and her associates.

They included 80 articles used in the

previous systematic review and 55 published since that time, reviewing both randomized controlled trials and observational studies (JAMA 2010;304:2161-9). Among their findings were the following: ▶ Otitoscopic signs of inflammation (redness) and effusion (bulging or immobile tympanic membrane) are strongly associated with accurate diagnosis of AOM, while the importance of clinical symptoms is “less convincing.”

“Perhaps the most important way to improve diagnosis is to increase clinicians’ ability to recognize and rely on key otoscopic findings,” Dr. Coker and her colleagues said. ▶ AOM microbiology has shifted significantly since the introduction of PCV7, with *Haemophilus influenzae* becoming more prevalent and *Streptococcus pneumoniae* becoming less so. However, a recent study indicates that this balance

may be shifting back again “because of an increase in the proportion of AOM with nonvaccine *S. pneumoniae* serotypes.” Clinicians must stay current with microbial trends, especially given the recent approval of PCV13, the researchers said.

▶ Immediate ampicillin/amoxicillin treatment has a modest advantage over delayed antibiotic therapy or placebo, but it is also more likely to cause diarrhea and rash.

within 3 days without antibiotics. If all were treated with immediate ampicillin/amoxicillin, an additional 12 would likely improve, but 3-10 children would develop rash and 5-10 would develop diarrhea. Clinicians need to weigh these risks (including possible long-term effects on antibiotic resistance) before prescrib-

ing immediate antibiotics for uncomplicated AOM,” the investigators said.

▶ Most antibiotics have similar clinical efficacy in children at average risk who have uncomplicated AOM. “We found no evidence of the superiority of any other antibiotic over amoxicillin,” they noted.

In particular, there is no evidence to support first-line use of more expensive antibiotics such as cefdinir or cefixime. In a given year, cefdinir is prescribed at 14% of the estimated 8 million physician visits for AOM, according to an analysis of data from the National Ambulatory Medical Care Survey. Assuming that such prescription is appropriate in approximately half of these cases because of a penicillin allergy, if physicians prescribed amoxicillin instead of cefdinir in the other half of cases, annual savings would exceed \$34 million, Dr. Coker and her associates said.

This study was supported by the Agency for Healthcare Research and Quality. One of Dr. Coker’s associates reported selling Pfizer stock at the start of the study. ■

Use of Antibiotics for Acute Otitis Media Tx Gets a Boost

BY SHERRY BOSCHERT

EXPERT ANALYSIS FROM THE ANNUAL MEETING OF THE AMERICAN ACADEMY OF PEDIATRICS

SAN FRANCISCO – Antibiotic therapy for acute otitis media may be more effective than some physicians think, a study has shown.

Some new data add to controversy that has been stirring since 2004 clinical practice guidelines from the American Academy of Pediatrics and the American Academy of Family Physicians included the option of watchful waiting in some children with uncomplicated acute otitis media (Pediatrics 2004;113:1451-65).

Support for management by observation came primarily from the desire to avoid escalation of antibiotic resistance and from the results of several meta-analyses suggesting that antibiotics are only modestly beneficial in treating acute otitis media, compared with placebo.

“Many of the meta-analyses had substantial flaws,” and included studies that used weak definitions of acute otitis media and so classified some children who had otitis media with effusion as having acute otitis media, Dr. Ellen R. Wald said at the meeting.

Because antibiotic therapy does not help otitis media with effusion, it’s no wonder that antibiotics barely outperformed placebo in these studies, said Dr. Wald, professor and chair of pediatrics at the University of Wisconsin, Madison.

She described a new study led Dr. Alejandro Hoberman, chief of pediatrics at Children’s



Hospital, Philadelphia, that found significantly lower rates of treatment failure in children treated with amoxicillin-clavulanate, compared with placebo, she added. The results have been submitted for publication.

The study randomized 291 children who were aged 6-23 months and had confirmed acute otitis media to treatment with the antibiotics or placebo for 10 days, with follow-up on days 4/5, days 10/12, and days 21/25. Patients with clinical failure to first-round therapy received amoxicillin and cefixime.

The amoxicillin-clavulanate treatment failed at or before days 4/5 in 4% of patients, compared with a 23% clinical failure rate in the placebo group (*P* less than

.001). Clinical failure rates at or before days 10-12 were 16% in the amoxicillin-clavulanate group and 51% in the placebo group (*P* less than .001).

These differences are “more dramatic than in previously reported trials,” Dr. Wald said. For children aged 6-23 months who have acute otitis media, treatment with amoxicillin-clavulanate for 10 days provides measurable short-term benefit, she said.

In a separate study by other investigators, surveys completed by 1,114 physicians found no significant increase in the proportion who managed acute otitis media without antibiotics after the guidelines (16%), compared with before the guidelines (11%), she added (Pediatrics 2010 [doi:10.1542/peds.2009-1115]).

Dr. Wald said that she had no relevant conflicts of interest. ■

Parental Diagnosis of AOM Appears to Be Unreliable

BY SHERRY BOSCHERT

EXPERT ANALYSIS FROM THE ANNUAL MEETING OF THE AMERICAN ACADEMY OF PEDIATRICS

SAN FRANCISCO – Parents may think they know when their child has an acute ear infection, but they don’t.

That’s the implication of a study of children aged 6-35 months that showed parents’ reasons for suspecting acute otitis media, symptoms, and symptom scores could not differentiate 237 children with acute otitis media from 232 who had respiratory tract infection without acute otitis media. Only when tympanic-membrane examination was added to these clues could the diagnosis be made (Pediatrics 2010;125:e1154-e1161).

“For me, this study has quite a lot of meaning,” Dr. Ellen R. Wald said at the meeting. “Parental diagnosis of acute otitis media” is not reliable. “We shouldn’t let the presence of those historical items persuade us” to accept a presumed diagnosis.

The diagnosis of acute otitis media relies heavily on accurate otoscopy, said Dr. Wald, who is professor and chair of pediatrics at the University of Wisconsin, Madison.

She did not participate in the Finnish study, in which parents completed structured question-

naires on the occurrence, duration, and severity of symptoms before otoscopic examination of the child.

The reasons that parents thought a child might have an ear infection did not differ significantly between groups. In the children with and without acute otitis media, respectively, parental suspicion was raised by restless sleep in 28% and 29%, ear pain in 13% and 9%, ear rubbing in 10% and 18%, severe or prolonged rhinitis or cough in 9% and 7%, and irritability in 17% and 19%.

Fever also did not differentiate between the two groups. The highest measured temperatures within the previous 24 hours did not differ significantly between children with or without acute otitis media.

Otoscopy also is essential to differentiate acute otitis media from otitis media with effusion, Dr. Wald added. Acute otitis media results from a bacterial infection, and antibiotic therapy may help. Otitis media with effusion is a sterile, nonbacterial inflammatory state that resolves spontaneously, and antibiotic therapy is neither appropriate nor beneficial. Otitis media with effusion causes hearing loss, which is a confounder for acute otitis media, she said.

Dr. Wald said she has no relevant conflicts of interest. ■