Otitis Research Supports New AAP Guidelines

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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 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:

► Otoscopic 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.

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► Immediate ampicillin/amoxicillin treatment has a modest advantage over delayed antibiotic therapy or placebo, but also is more likely to cause diarrhea and rash. "Of 100 average-risk children with AOM, approximately 80 would likely get better 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 prescribing 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. If such prescription is appropriate in approximately half of these cases because of a penicillin allergy, and 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. ■