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Revised AOM guideline emphasizes accurate diagnosis

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AAP Clinical Practice Guideline

The Academy has revised its clinical practice guideline on the *Diagnosis and Management of Acute Otitis Media* (AOM).

The revised guideline emphasizes the need for accurate diagnosis of AOM and otitis media with effusion, and includes 17 key action statements with a detailed discussion of the evidence supporting each. The guideline, published in the March issue of *Pediatrics* (2013;131:623-628; http://pediatrics.aappublications.org/cgi/doi/10.1542/peds.2012-3488), applies to children 6 months to 12 years of age.

A diverse panel was formed in 2009 to revise the 2004 guideline. The panel included general pediatricians, infectious disease specialists, otolaryngologists, an emergency medicine specialist, a family physician and an informatician. Aided by the Agency for Healthcare Research and Quality, the panel reviewed the accumulated evidence on the diagnosis and management of AOM.

Change in definition of AOM

The key to proper management of AOM is to make an accurate diagnosis. Thus, the most important change from the 2004 guideline is the working definition of AOM.

The 2004 guideline used a three-part definition of AOM: 1) acute onset of symptoms; 2) presence of middle ear effusion (MEE); and 3) presence of inflammation. The new guideline requires inflammation, as indicated by a bulging tympanic membrane (TM), and the presence of MEE.

Fever, fussiness and/or ear pain may be the usual reason for a doctor visit, but research done in the last several years has shown that symptoms do not differentiate AOM from an upper respiratory infection or other minor illness. Therefore, the appearance of the TM is the key to accurate diagnosis.

While there is no gold standard for AOM diagnosis, otitis researchers and experts agree that the bulging of the TM correlates best with an AOM diagnosis, including the likelihood of finding bacteria in the middle ear on tympanocentesis.

The 2004 guideline used the concept of uncertain diagnosis. With the requirement of a bulging TM, there no longer should be uncertainty in diagnosis. The guideline also emphasizes the use of pneumatic otoscopy to ensure the presence of MEE.

Watchful waiting for some patients

The use of initial observation, or watchful waiting, in selected patients is the major change from customary practice introduced in the 2004 guideline. Research has reinforced the success of observation, especially in children older than 24 months who are not severely ill. In most studies, 70% of children treated with initial observation did not require subsequent antibiotic therapy.

The family should be included in decisions regarding the use of observation as initial therapy. In addition, a mechanism must be in place to ensure follow-up and that antibiotic therapy is started if the child worsens or fails to improve within 48 to 72 hours of symptom onset.

Two major studies using a highly specific definition of AOM in younger children showed a significant improvement in patients treated with antibiotics vs. those who were observed. The panel acknowledged this work by continuing to recommend initial antibiotic treatment in children younger than 24 months of age with a bulging TM. However, if bulging is mild and the child does not appear ill, initial observation may be used if the family agrees. Again, a mechanism must be in place to ensure follow-up and that antibiotic therapy is started if the child worsens or fails to improve within 48 to 72 hours of symptom onset.

Antibiotic treatment

The choice of antibiotics has not changed since 2004. Amoxicillin is the first-line antibiotic for most children due to its high success rate, low cost, palatability and low rate of side effects. Based on pharmacokinetic studies, a dose of 90 mg/kg/day in two divided doses is preferred to a lower dose.

Amoxicillin clavulanate at the same 90 mg/kg/day in two divided doses is the preferred second-line antibiotic, but should be used initially in the child with concurrent conjunctivitis or who has received amoxicillin in the previous 30 days. An amoxicillin: clavulanate ratio of 14:1 will decrease the risk of medication side effects.

Other recommendations

The guideline also addresses recurrent AOM for the first time. Prophylactic antibiotic therapy is not recommended, while tympanostomy tubes may be an option to reduce the frequency of AOM.

Other recommendations include evaluating and managing pain; offering pneumococcal and influenza vaccine to all children; encouraging exclusive breastfeeding for at least six months; and avoiding tobacco smoke exposure.

Dr. Lieberthal is chair of the AAP Subcommittee on Acute Otitis Media and lead author of the clinical practice guideline.