Otitis Media: Antibiotic Therapy


Rating (out of 4): 3

Scope
This guideline is intended for all physicians who deal with patients with otitis media.

Clinical Question
Do all patients with AOM need to receive antibiotics? What antibiotics should be used for AOM?

Guideline Notes

Use/Overuse of antibiotics

- Clinicians have years of experience treating middle ear disease with antibiotics. The favorable natural history of these conditions and the marginal impact of antibiotic therapy on outcome are under-appreciated. Clinicians overestimate the extent to which clinical failure is due to antibiotic resistance and overestimate the likelihood that second line medications will cover resistant organisms.

Treatment Options for AOM

- The decision to treat should be based on symptoms, since symptomatic improvement is the only outcome attributable to antibiotics in placebo-controlled trials of AOM. For children with purulent OME or minimally symptomatic AOM, it is reasonable to give parents a dated prescription for amoxicillin to be filled within a week at the parent’s discretion, if symptoms are worsening. Alternatively, the clinician could defer therapy and ask the parent to call in the event of persistent symptoms to get a prescription over the phone.
Recommendations

- For isolated symptomatic episodes of AOM, the antibiotic of choice is amoxicillin (at a dose of 60-90 mg/kg/day b.i.d. for 5-10 days). Treat AOM that is clinically unresponsive to amoxicillin after 72 hours of therapy with high-dose amoxicillin/clavulanate [C*]. Patients with persistent symptoms on high-dose amoxicillin/clavulanate should receive 1-3 doses of IM ceftriaxone [C*].

- Antibiotic therapy can be deferred for many asymptomatic patients, and for most cases of OME [D*].

- The use of macrolides for AOM should be avoided [A*].

- Avoid multiple courses of empiric, broad-spectrum antibiotics [D*].

- Routine prophylactic antibiotic therapy is not recommended for recurrent AOM.

- Management of purulent OME or minimally symptomatic AOM (viral, Streptococcus pneumoniae, Haemophilus influenzae, or Moraxella catarrhalis). Watchful waiting (or a single course of amoxicillin). [D*]

- Management of all children with AOM: ibuprofen or acetaminophen to control pain.

- Uncomplicated AOM with symptoms (usually due to viruses, S.pneumoniae, H. influenzae, or M. catarrhalis). A single course of high-dose amoxicillin. If symptoms persist at 72 hrs, use a single course of high dose amoxicillin/clavulanic acid (A/C). Cefuroxime axetil, is an alternative second line agents. If symptoms persist for several more days, consider 1-3 doses of IM ceftriaxone. Trimethoprim/sulfamethoxazole, azithromycin, and cefprozil are acceptable for children with allergy to amoxicillin. Antibiotics should be given for 10 days for infants and toddlers and for 5 days for age 2 and up. [C*]

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- AOM with significant systemic toxicity (e.g., high fever, malaise, vomiting, leukocytosis) (viral, S. pneumoniae, group A strep). IM ceftriaxone or high dose amoxicillin. Consider other etiologies. If significant symptoms persist at 72 hrs, consider tympanocentesis.

- AOM with conjunctivitis (viral, sinusitis, H. influenzae). A single course of trimethoprim/sulfamethoxazole, amoxicillin /clavulanate or cefuroxime axetil.
- If eye discharge persists at 72 hrs: add quinolone ophthalmic drops. If symptoms continue to persist, use a single course of high-dose amoxicillin clavulanate or tympanocentesis.

- **AOM with bronchitis.** Treat with amoxicillin as above. Treat bronchospasm as indicated.

- **AOM with bronchiolitis** (viral, *S. pneumoniae*, *H. influenzae*, or *M. catarrhalis*). Treat with amoxicillin as above.

Endorsement Note:
This guideline was endorsed over the other guidelines reviewed because it is:
- Applicable to the Canadian approach
- Evidence-based
- Specific to the use of antibiotics and doses to be used

*University of Michigan Levels of Evidence

A = Randomized controlled trials;
B = Controlled trial, no randomization;
C = Observational trials;
D = Opinion of expert panel

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