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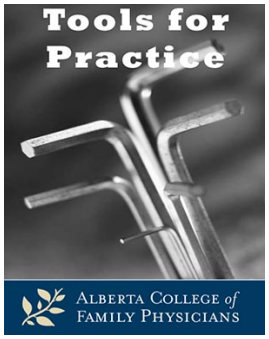
Note: This article has been released early to avoid the Christmas rush. We will return in January.

December 15, 2014



Evidence that's tough to swallow: Short course antibiotics for pediatric strep throat

Clinical Question: Is treatment with short course antibiotics as effective as a 10-day course of penicillin for children with Group A Streptococcal (GAS) pharyngitis?

Bottom-line: In children with GAS pharyngitis, short course antibiotics (versus 10 days of penicillin) have similar clinical responses but higher rates of adverse events, likely due to drug selection. The best evidence for rheumatic fever prevention remains with 10-day penicillin.

Evidence:

- Systematic review: 20 randomized controlled trials (RCTs) of 13,102 children with GAS pharyngitis comparing short course (3-6 days) antibiotics (primarily cefuroxime, azithromycin, other macrolides) to 10 days of penicillin found:[1]
  - Minimal and inconsistent differences in clinical outcomes.
  - No significant difference in composite of complications (e.g. rheumatic fever (RF), glomerulonephritis).
  - More adverse events: Primarily gastrointestinal (likely related to antibiotic choice).
  - Limitations:
    - Low quality studies: Only three double-blinded.
    - Only three studies reported long-term complications (like RF).
    - Funding sources not reported.
- Largest RCT: >4000 German children randomized to one of six antibiotics (including amoxicillin/clavulanate, erythromycin, and clarithromycin) for five days or 10 days of penicillin demonstrated: [2]
  - No difference in overall clinical response at 1-2 weeks.
  - Short course had fewer recurrences at one year (21.9% vs. 24.8%, number needed to treat=35).
  - Three cases of RF in short course arm, none with penicillin.
  - Limitations: Open-labeled study, outcomes for individual antibiotics not reported.

Context:

- About 1/3 of pediatric sore throats due to GAS[3]; antibiotics are prescribed in 60% of cases.[4]
- Symptoms normally resolve in 2-5 days.[5] Antibiotics improve symptoms by ~16 hours.[6] Antibiotics (in GAS patients) help one more patient in four be symptom-free at day three.[6]
- RF incidence: ~1/100,000 in developed countries, higher in lower socio-economic areas and developing countries.[7]
  - Only penicillin has high level evidence for RF treatment or prevention and is effective if given up to nine days after symptom onset.[6,8,9]
- Current recommendations: Treat laboratory proven GAS pharyngitis with 10-day penicillin[8,10-12] or amoxicillin.[8,10,11]
  - Cephalexin x 10 days if penicillin intolerance.
  - Azithromycin (3-5 days), clindamycin or clarithromycin (10 days) if severely penicillin allergic.[8,10-12]

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