Embrace Short-Course Therapy for Strep

I’d like to clear up some of the controversy regarding short-course antibiotic therapy for streptococcal tonsillopharyngitis versus longer-term therapy. A meta-analysis published this summer from a group in Athens is the latest to call into question the wisdom of using antibiotics for less than 10 days in the treatment of group A β-hemolytic streptococcal (GABHS) tonsillopharyngitis. They examined 11 randomized controlled trials (including one of mine) comparing short-course (7 days or less) versus long-course (at least 2 days longer than short course) treatment.

The investigators concluded that short-course therapy produced inferior bacteriologic cure rates, even though the results were only statistically significant among the studies that compared short vs. long courses of penicillin (Mayo Clin. Proc. 2008;83:880-9).

In fact, in the study from my group that they included, 5 days of twice-daily treatment with cepodoxime was as efficacious in bacteriologic eradication as the recommended 10-day regimen (defined as cure plus improvement) as 10 days of cepodoxime therapy, and both regimens produced superior bacteriologic efficacy, compared with a 10-day regimen of penicillin V three times daily in the treatment of GABHS tonsillopharyngitis in children (Arch. Pediatr. Adolesc. Med. 1994;148:1053-60).

Indeed, the Food and Drug Administration has approved three oral antibiotics for 5-day strep throat treatment in both children and adults: cefdinir (Omnicef), cepodoxime (Vantin), and azithromycin (Zithromax). With the FDA approval, use of these three agents is considered a standard of care and therefore medicolegally safe.

The FDA belies this because our data showing inferiority of cephalosporin or amoxicillin for treating strep throat is currently under discussion. It stands to reason: The only way to prevent rheumatic fever is to eradicate strep, and the guidelines don’t say this because our data showing inferiority of second- and third-generation cephalosporins is inferior to 10 days of penicillin, just as the Mayo group did (Pediatr. Infect. Dis. J. 2005;24:909-17).

The others did not do a good job of eradicating carrier status, whereas cephalospins do. In addition, a strep carrier who has symptoms caused by a virus would be mistakingly recorded as a clinical failure.

We separately analyzed the nine studies that excluded strep carriers in our 2003 meta-analysis, as well as in another meta-analysis that we published in 2004 in which we showed that the likelihood of bacteriologic and clinical failure of GABHS tonsillopharyngitis in children is significantly less with 10 days of treatment with an oral cephalosporin than with oral penicillin for 10 days (Pediatrics 2004;113:866-82). In both analyses, the cephalosporin performed better than with oral penicillin for 10 days (Pediatrics 2004;113:866-82). In both analyses, the cephalosporin performed better than with oral penicillin for 10 days (Pediatrics 2004;113:866-82). In both analyses, the cephalosporin performed better than with oral penicillin for 10 days (Pediatrics 2004;113:866-82). In both analyses, the cephalosporin performed better than with oral penicillin for 10 days (Pediatrics 2004;113:866-82). In both analyses, the cephalosporin performed better than with oral penicillin for 10 days (Pediatrics 2004;113:866-82). In both analyses, the cephalosporin performed better than with oral penicillin for 10 days (Pediatrics 2004;113:866-82). In both analyses, the cephalosporin performed better than with oral penicillin for 10 days (Pediatrics 2004;113:866-82).

Final cure rates for azithromycin should not be lumped into the same category as rates for the cephalospins, because azithromycin has a half-life of about 96 hours, compared with 2-4 hours with the cephalosporins. Thus, when you give azithromycin for 5 days, it stays in the body as long as 10 days of another antibiotic.

The issue here is in the dosing, which often causes confusion among practitioners. For strep throat, the 5-day dose of azithromycin for children is a single 10-12 mg/kg per day dose for each of the 5 days. This is different from the dosage given for otitis media or sinusitis, which is 10-12 mg/kg per day for just the first day, followed by 5 mg/kg per day for the next 4 days. It’s easy to forget that, because we write far more prescriptions for ear and sinus infections.

Dr. Casey and I have shown that the otitis media dose of azithromycin is inferior for the treatment of strep throat (Clin. Infect. Dis. 2005;40:1748-57). If you accidentally prescribe the lower dose for strep throat and the child develops rheumatic fever, you may have a lawsuit on your hands.

In adolescents and adults with strep throat, this means that you need two of the standard “Z-Paks” in order to give a high enough dose for eradication. The Z-Paks label doesn’t say this because our data showing inferiority weren’t published until after the product was approved for treating strep throat. Thus, in this case you won’t get sued if you just prescribe one pack, ... but there’s a better chance the patient will be cured if you prescribe two.

I hope I’ve made my point clear: Short-course therapy is a viable option for strep throat, because the guidelines from AAP and other organizations aren’t likely to change any time soon. Guidelines should be based on data, but the current guideline writers prefer to harken back to penicillin studies done in the 1940s and 1950s, when rheumatic fever was still prevalent. However, a recommendation for 10 days of cephalosporin or amoxicillin for treating strep throat is currently under discussion. It stands to reason: The only way to prevent rheumatic fever is to eradicate strep, and these drugs do that better than penicillin!

The researchers also tested the effectiveness of the office cleaning protocol, which involved wiping the toys with a disinfectant cloth, and they collected 15 samples from the sick waiting room before and after cleaning.

Before cleaning, viral RNA was found on 6 (40%) of 15 toys in the office waiting room, including the yellow dump truck and the “very popular stegosaurus,” said Dr. Pappas. After cleaning, 4 (27%) of the 15 toys were still positive for viral RNA.

The results suggest that pediatric office toys often remain contaminated with viral RNA, even when they are cleaned. But the presence of viral RNA does not mean that the virus is infectious—whether viral remnants left on toys can cause infections in children who play with the toys remains unknown, Dr. Pappas said.

Dr. Pappas stated that she had no financial conflicts of interest to disclose.