Experts Differ on Treatment for Group A Strep

BY LAIRD HARRISON

EXPERT ANALYSIS FROM A PEDIATRIC UPDATE

LAS VEGAS – What's the treatment of choice for group A streptococcal tonsillopharyngitis?

In 2009, attendees at this pediatric update sponsored by the American Academy of Pediatrics California District 9 were advised that cephalexin was the best first-line treatment. But those who returned this year heard a conflicting recommendation – for amoxicillin taken in one dose per day. Both recommendations differ from the AAP Red Book.

"Amoxicillin is my favorite," said Dr. Christopher J. Harrison, a pediatrician who is an infectious disease specialist at Children's Mercy Hospital in Kansas City, who presented this year.

While the AAP Red Book, Centers for Disease Control and Prevention, and other organizations still recommend penicillin as the first line of treatment, recent studies have shown it to be less effective than amoxicillin, said Dr. Harrison, citing an article that compared the two regimens in 152 children (Pediatrics 1999;103:47-51).

One problem with penicillin is that the generic versions taste bad, he said, so patients are less likely to take the full course. "The taste has always been an issue," said Dr. Harrison. Amoxicillin tastes better. So he recommends amoxicillin 50 mg/kg up to 1 g, taken once per day – an approach shown to be effective in one study (Arch. Dis. Child. 2008;93:474-8).

The standard recommendation for amoxicillin is 750 mg four times a day, but administering a drug three to four times a day is hard for families, he said. "That's not something that our parents are going to get done."

So Dr. Harrison prescribes the amoxicillin all in one dose per day. "The single big dose – or twice a day – is actually pharmacokinetically better than what we used to do," he said. Fewer, larger doses result in a longer period of time in which the serum level of the drug is at a high concentration. The longer time at a higher concentration is helpful in eradicating bacteria that can protect themselves in biofilm, he said.

Cephalosporins should be used as second-line treatments because of the risk of bacterial resistance.

DR. HARRISON

He also cited studies showing that cephalosporins, such as cephalexin, are more effective than penicillin.

But he agreed with the Red Book recommendation that these drugs should be used as second-line treatments because of the risk that the bacteria might develop resistance to them. He also pointed out that the cephalosporins, while more successful in eradicating the bacteria, have never been shown to directly prevent rheumatic fever.

Asked to comment, Dr. Michael E. Pichichero, a pediatrician who is an infectious disease specialist at the University of Rochester (N.Y.) Medical Center, stuck to the position he articulated at last year's meeting: that cephalexin is the best first-line treatment. He uses two 15-mg doses per kilogram per day.

He cited his own research, including a study to which he contributed published in Clinical Pediatrics (2008;47:549-54), which found that children treated with first-generation cephalosporins are much less likely to experience symptomatic relapses than children treated with amoxicillin, which in turn works better than penicillin.

"Cephalexin tastes good," he said. "It can be used twice a day. It doesn't kill the normal flora. And it's no more expensive." The possibility that the use of cephalexin as a first-line treatment might lead to more resistant strains of streptococcus "has never been shown," he said. "It's hypothetical."

Dr. Pichichero pointed out that there are reasons to eradicate the bacteria be-

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Children With IBD May Be at Risk for Hepatitis B

BY HEIDI SPLETE

FROM THE ANNUAL MEETING OF THE AMERICAN COLLEGE OF GASTROENTEROLOGY

SAN ANTONIO – Approximately half of children being treated with infliximab for inflammatory bowel disease did not have immunity to hepatitis B, based on data from 100 children.

Patients with inflammatory bowel disease (IBD) treated with infliximab who lack immunity to hepatitis B virus are at risk for severe liver disease if exposed to the virus in the community, noted Dr. Jonathan Moses of the Cleveland Clinic.

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Major Finding: Among children being treated with infliximab for IBD, 51% had no immunity to hepatitis B and were at increased risk for liver complications.

Data Source: A prospective, single-center study of 100 children with IBD.

Disclosures: Dr. Moses had no financial conflicts to disclose.

To determine the degree of hepatitis B virus (HBV) immunity, Dr. Moses and his colleagues conducted a prospective study of 100 consecutive children who were being treated with infliximab for IBD at a single center; 91 of the children (91%) had Crohn's disease. The mean duration of infliximab therapy was 38 months, and the mean dose was 7 mg/kg.

Blood samples were taken at a routine visit for infliximab infusion. The samples were tested for three markers: hepatitis B surface antigen (HBsAg), hepatitis B core antibody (anti-HBc), and hepatitis B surface antibody (anti-HBs). Patients with anti-HBs levels of 10 mIU/mL or higher were considered immune.

Regardless of vaccination history, 49% of the children were immune to HBV and 51% were not. The mean concentration of anti-HBs levels in the immune children was 295.6 mIU/mL.

The children were aged 5-18 years (mean, 13 years) at the time of diagnosis with IBD. The mean age at which the blood sample for this study was taken was 18 years. Approximately 60% of the patients were boys, and most were white.

Vaccination data were available for 87 patients, 91% of whom had been vaccinated. Most of these patients received the hepatitis B vaccine as part of their routine childhood immunization schedules, so they had a 5- to 10-year gap between the time they received hepatitis B vaccination and the time they started infliximab for IBD, Dr. Moses said.

Factors related to HBV immunity, including body mass index percentile and Crohn's disease location, were similar between the two groups. Patients with immunity were slightly older at the time of IBD diagnosis.

A booster dose of HBV vaccine had been given to 20 patients, and the full vaccination series had been started in 7 patients at the time of the study presentation at the meeting. ■

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sides preventing rheumatic fever. "We know that treating results in a reduction in contagion," he said. "And it prevents sequelae like abscesses of the lymph nodes."

The question of which antibiotic to use was not the only group A strep controversy Dr. Harrison discussed. He also spoke highly of new rapid tests for strep, citing a recent study in Clinical Pediatrics (2010;49:1050-2) that found that several of the new tests had sensitivity and specificity above 95%.

Based on this research, he doesn't think everyone needs to order a throat culture in the case of a negative result with a rapid test. "It's not really a necessary thing, in my personal opinion, for everyone, although it's recommended."

The exception? In an area with rheumatic fever or some other special cause for concern, the throat culture is still advisable.

Dr. Harrison disclosed that he has had a financial relationship with GlaxoSmithKline Vaccine Group. Dr. Pichichero said that he had no relevant financial disclosures. ■