Clinical Capsules

Vesicoureteral Reflux and UTIs

Mild to moderate vesicoureteral reflux did not increase the incidence of urinary tract infections, recurrent pyelonephritis, or renal scarring in children with acute pyelonephritis, reported Dr. Eduardo H. Garin of the University of South Florida, Tampa, and his colleagues.

In addition, urinary antibiotic prophylaxis showed no effect on the prevention of either the recurrence of infection or the development of renal scars (Pediatrics 2006;117:626-32).

A total of 218 children aged 3 months to 18 years were monitored for 1 year. Children who were randomized to antibiotics received a once-daily dose of either 1-2 mg/kg of trimethoprim or 5-10 mg/kg sulfamethoxazole or 1.5 mg/kg nitrofurantoin. The overall incidence of urinary tract infections (UTIs) after pyelonephritis was 20.1%. Among children who did not receive antibiotic prophylaxis, the incidence of UTIs was not significantly different between those with and without vesicoureteral reflux (VUR; 22.4% vs. 23.3%). Similarly, among children who did receive antibiotic prophylaxis, the incidence of UTIs was not significantly different between children with and without VUR (23.6% vs. 8.8%).

Only 12 of the 218 patients (5.5%) had recurrence of pyelonephritis. Although more recurrences occurred in patients with VUR than without it (8 vs. 4), there was no significant evidence that reflux increased the odds of recurrence.

In addition, only 13 patients developed renal scars during the follow-up period—7 with VUR and 6 without VUR—there was no significant evidence that VUR increased the risk for scarring. The rates of scarring were similar in the prophylaxis and control groups.

Adult Tdap Called Safe for Children

The adult formula of the tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap) can be given to children and adolescents starting at 18 months after a children's formula tetanus and diphtheria vaccine, said Dr. Scott A. Halperin of Dalhousie University, Halifax, Nova Scotia, and his colleagues.

Prior recommendations for a 10-year waiting period between doses of the tetanus and diphtheria toxoid–containing vaccine for infants and young children (TD) or the vaccine for older children and adults (Td) had been based on effectiveness rather than a lack of safety information, the investigators noted.

Concerns about the relationship between the timing of vaccinations and adverse events prompted an open-label clinical trial including 7,156 children in grades 3-12 who received Tdap at time intervals ranging from 18 months to 9 years after their previous vaccinations with TD, Td, or diphtheria-tetanus-acellular pertussis (DTaP).

Tdap was generally well tolerated regardless of the time elapsed since the previous vaccination. Data on fever, injection site erythema, swelling, and pain were solicited for 14 days after immunization, and unsolicited adverse events were recorded for 28 days (Pediatr. Infect. Dis. J. 2006;25:195-200). Overall, more than 80% of the children in each time interval reported injection site pain, but this was not significantly different from pain reports in children who were vaccinated 10 years after a previous immunization. Injection site erythema was slightly increased among children whose previous vaccine had been DTaP, but not among those whose previous vaccine had been Td.

DTaP Reactions Defeat OTC Drugs

Neither acetaminophen nor ibuprofen had a significant preventive effect against localized reactions to the fifth dose of the diphtheria-tetanus -acellular pertussis vaccine based on data from 372 children aged 4-6 years.

Dr. Lisa A. Jackson of the University of Washington, Seattle, and her colleagues conducted a randomized, blinded controlled trial within a larger safety study of the Tripedia DTaP vaccine. Dr. Jackson has served on the speakers' bureau for Sanofi Pasteur, which manufactures the vaccine and provided a research grant for the study (Pediatrics 2006;117:620-5).

The children were assigned to receive their first dose of 15 mg/kg of acetaminophen, with a maximum dose of 450 mg; 10 mg/kg of ibuprofen, with a maximum dose of 300 mg; or a placebo 2 hours before their scheduled vaccinations. The second and third doses were given at 6-hour intervals after vaccination, although an interval of up to 12 hours between consecutive doses was allowed. Overall, 90% of parents reported giving their child all three doses, and 70% reported giving all doses on schedule.

Overall, local reactions with an area of redness at least 2.5 cm in size occurred in 43% of the children. In addition, 49% reported some pain in the vaccinated limb and 23% reported some itching in the vaccinated limb during the 2 days after vaccination.

—Heidi Splete