CLINICAL CAPSULES

HAART Stabilizes CD4+ Counts

The CD4+ T-cell counts of 31 children aged 2.4 months-16.4 years with HIV-1 remained stable throughout 4 years of highly active antiretroviral therapy (HAART), reported Pieter L.A. Fraaij, M.D., of Erasmus Medical Center–Sophia Children's Hospital, in Rotterdam, the Netherlands, and his colleagues. At baseline, 28 children started HAART that included indinavir and 3 started HAART that included nelfinavir (Clin. Infect. Dis. 2005;40:604-8). In the intent-to-treat analysis, 65% had HIV-1 levels less than 500 copies/mL and 61% had less than 50 copies/mL after 4 years of treatment. Overall, 28 children changed therapies 38 times during the study period, for reasons including 20 cases of treatment failure, 7 cases of drug toxicity, 7 cases of simplification of the drug regimen, 3 cases of refusal or intolerance of medication, and failure to reach appropriate results in 1 case. HAART was changed at least once in 13 children (41%) due to viral failure. Clinical adverse events occurred in 24 children (77%) , but they were mostly mild gastrointestinal problems. Seven children changed medications due to toxicity associated with indinavir. Six were lost to follow-up, and one child died of serious invasive opportunistic infections 1 year into the therapy.

Varicella Vaccination Cuts Mortality

Mortality due to varicella fell from an average of 0.32 deaths per million between 1990 and 1994 to an average of 0.07 deaths per million between 1999 and 2001among children aged 1-4 years due to the adoption of universal childhood varicella vaccination in the United States, with the lowest rates for all groups in 2001, said Huong Q. Nguyen and colleagues at the Centers for Disease Control and Prevention (N. Engl. J. Med. 2005;352:450-8). In addition, deaths due to varicella fell significantly among children aged 10-19 years (67%) and among infants (66%) between the two periods. The decline in mortality was 100% among children aged 1-4 years and aged 5-9 years for children at high risk due to preexisting conditions; however, children with preexisting conditions might have received aggressive treatment when they developed varicella. Overall, mortality was similar across racial and ethnic groups, and similar among children born in the United States compared with foreign-born children.

E. coli Linked to Diarrhea

Diarrheagenic *Escherichia coli* was isolated significantly more often in children with acute gastroenteritis in an emergency department compared with inpatients and controls, said Mitchell B. Cohen, M.D., of Cincinnati Children's Hospital Medical Center, and his associates. In a study of 684 children who presented to an emergency department, 643 inpatient children, and 555 controls, the investigators used DNA probes to evaluate stool samples. A majority in each group was aged 5 years or younger (J. Pediatr. 2005;146:54-61). Diarrheagenic *E. coli* was present in 167 (24%) of 684 ED patients, compared with 78 (14%) of 555 control patients. However, there was no significant difference in prevalence of *E. coli* between the inpatients (13%) and controls (14%). There also was no significant difference in prevalence of *E. coli* between the inpatients and controls in the subset aged 5 years and younger (13.5% vs. 15.4%). In addition, the researchers found a significantly high isolation rate of enteroaggregative *E. coli* in ED patients less than 1 year old, compared with controls (10% vs. 1.4%). "Diarrheagenic *E. coli* may be an important, unrecognized cause of diarrhea in children in the [United States], perhaps accounting for 10% of all acute gastroenteritis," the investigators said. Rotavirus was the most common single etiologic agent, found in 20.3% of inpatients and 20.2% of ED patients, compared with 1.1% of controls.

Urinalysis Predicts Kidney Diseases

Children with a combination of microhematuria and proteinuria were at significantly increased risk for kidney disease or decreased kidney function in a retrospective chart review of 239 children, reported Jayanthi Chandar, M.D., and colleagues at the University of Miami (Clin. Pediatr. 2005;44:43-8). Overall, 109 children had isolated microhematuria, 79 had isolated proteinuria, and 51 had a combination of the two conditions. The 11 children who initially presented with a combination of both conditions had odds ratios of 8.5 for developing kidney disease and 9.8 for decreased kidney function. An additional 17 children presented with proteinuria and later developed microhematuria, and 23 presented with microhematuria and later developed proteinuria, and these children also were at increased risk for kidney problems. A total of 163 children (68%) underwent renal ultrasounds, 16% of which showed genitourinary disease or abnormalities in kidney size or echogenicity. Although urinalysis remains controversial as a screening tool, children with persistent urine abnormalities should be evaluated in order to diagnose kidney disease as soon as possible.

—Heidi Splete