Recent ID Research Tests Antiemetics, Steroids

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Recent studies involving gastroenteritis, Kawasaki disease, and bronchiolitis represent notable advances in the field of pediatric infectious disease, according to Dr. Howard Bauchner, director of the division of general pediatrics at Boston University.

Any list of "best" clinical articles is subject to bias, but randomized, controlled trials are usually the most likely to be relevant to an office practice, said Dr. Bauchner, who also serves as the editor in chief of the journal Archives of Disease in Childhood.

"Practitioners should try to keep up with the literature, but it can be difficult," Dr. Bauchner said in an interview.

Dr. Bauchner reviewed several notable studies at a conference on infectious diseases held in Cambridge, Mass.

He highlighted one study in which an old drug was used in a new way: An antiemetic improved the successful oral rehydration of children with gastroenteritis by reducing vomiting (N. Engl. J. Med. 2006;354:1698-1705). In this study, 215 children aged 6 months to 10 years who were treated for gastroenteritis in a pediatric emergency department were randomized to receive a single dose of ondansetron or a placebo, followed by standard oral rehydration therapy.

Overall, the children who received ondansetron were significantly less likely to vomit, compared with the placebo group (14% vs. 35%); they also had significantly fewer episodes of vomiting and significantly greater oral intake. The children who received ondansetron also were less likely to need intravenous rehydration.

There is no reason to think this strategy would not be successful in other clinical pediatric settings, Dr. Bauchner said at the meeting, sponsored by Boston University.

Another study tested the possible value of adding a single pulsed dose of intravenous methylprednisolone to the standard intravenous immunoglobulin (IVIG) treatment for children with Kawasaki disease (N. Engl. J. Med. 2007;356:663-75).

In this multicenter study, 199 children averaging 3 years of age with acute Kawasaki disease (illness less than 10 days) were randomized to receive a single 30-mg/kg dose of methylprednisolone (101 children) or a placebo (98 children).

The value of steroid treatment for bronchiolitis remains controversial. In one study, hospitalization was the same in treated and placebo groups.

The children in the methylprednisolone group had a significantly shorter initial hospital stay and a significantly lower erythrocyte sedimentation rate at 1 week after the treatment, compared with the placebo group. But both groups averaged similar numbers of feverish days, rates of retreatment with IVIG, and numbers of adverse events. The findings don't support the use of methylprednisolone for acute Kawasaki disease, but the authors and an accompanying editorialist noted that larger trials involving a longer follow-up period and different steroids might yield different results, Dr. Bauchner said.

A third study showed that steroids had no clinical effect on the treatment of bronchiolitis in infants (N. Engl. J. Med. 2007; 357:331-9).

The value of steroids as a treatment for bronchiolitis remains controversial, said Dr. Bauchner. In this study, 600 infants aged 2-12 months diagnosed with moderate to severe bronchiolitis were randomized to receive a single oral dose (1 mg/kg) of dexamethasone or a placebo. The hospital admission rate, which was the primary outcome of the study, was essentially the same in both the steroid group and placebo group (40% vs. 41%). Children in both groups showed some respiratory improvement during an observation period following their treatments, and the hospitalization rate was similar for both groups. The caveat is that infants with a history of wheeze were excluded, Dr. Bauchner noted. But the results held up in a subgroup analysis that included a family history of asthma.

To keep up on latest research, Dr. Bauchner recommended that clinicians subscribe to any abstracting service, such as Journal Watch and Pediatric Grand Rounds.

Dr. Bauchner serves as a consultant to AstraZeneca Pharmaceuticals LP. ■