

Ondansetron reduces vomiting, hospital admissions in children with gastroenteritis

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University of North Carolina at Chapel Hill researchers have demonstrated that a drug called ondansetron helps reduce vomiting, the need for intravenous fluids and hospital admissions in children with acute gastroenteritis.

Gastroenteritis is an infection, often caused by a virus, that causes vomiting and diarrhea. It is often popularly called "stomach flu" and is a very common ailment in children during the winter months.

"Children under the age of 5 years generally have between one and three episodes of gastroenteritis each year," said Dr. Lisa Ross DeCamp, lead author of the study, which is published in the September 2008 issue of *Archives of Pediatric & Adolescent Medicine*.

"And about one of every 25 children in the country will be hospitalized for gastroenteritis by the time they're 5," said DeCamp who was a chief resident at the N.C. Children's Hospital at the time of the study but now works at the University of Michigan.

In the emergency department at UNC Hospitals, five to 10 children a day are seen with symptoms of gastroenteritis, said Dr. Michael J. Steiner, assistant professor of pediatrics and a co-author of the study.

Persistent vomiting from acute gastroenteritis can be very frightening to children and their families and also poses a risk of dehydration. Current practice guidelines do not recommend that doctors give medications to children with gastroenteritis, but several recent studies suggest that ondansetron might be helpful.

In addition, Steiner said, many doctors are already prescribing ondansetron "off-label" for children with gastroenteritis. It has not been approved by the Food and Drug Administration for that indication, although it is approved for treating nausea caused

by chemotherapy in cancer patients.

To find out if there was valid scientific support for giving antiemetics to children with gastroenteritis, DeCamp, Steiner and two UNC colleagues -- Dr. Julie S. Byerly, assistant professor of pediatrics, and medical student Nipa Doshi -- conducted a systematic review of all the medical literature studying the use of antiemetics for gastroenteritis.

The 11 identified previously published studies evaluated the safety and effectiveness of seven different antiemetics that were given to children seen in hospital emergency departments. The authors found that antiemetics other than ondansetron should not be used in children with gastroenteritis.

A meta-analysis (a statistical way to combine different studies) found that ondansetron, which is sold under the brand name Zofran and is available as an intravenous infusion, tablet, disintegrating tablet or in liquid forms, reduced further vomiting after receipt in the emergency department. Importantly, it also reduced the likelihood that children would require intravenous fluids by nearly two-thirds, and halved the risk of immediate hospital admission. Ondansetron also had one down side: It was found to increase diarrhea in 3 of the 6 studies. However, the authors found this increased diarrhea did not appear to cause an increased need for further medical care.

The UNC researchers concluded that future treatment guidelines should recommend the use of ondansetron in select children with gastroenteritis.

Source: University of North Carolina

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