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Ondansetron oral dissolve tab vs. oral solution in children presenting to the emergency department with gastroenteritis. Thompson, Graham, et al. Journal of Emergency Medicine. 2016;51(5):491-497.

Question: To support oral rehydration of pediatric patients in the emergency department who have acute gastroenteritis, oral Zofran is frequently used as part of a po challenge. Yet, in a vomiting child, it is unclear whether oral medicine may be tolerated. This study attempted to find out whether ondansetron oral dissolving tablet or oral solution is better tolerated.

Background: Acute gastroenteritis is responsible for over 1.5 million outpatient visits annually in the United States and has 200,000 hospital admissions annually. The mainstay of treatment is oral rehydration therapy, but vomiting is a significant barrier to this therapy. Zofran has been shown to support oral hydration by decreasing vomiting and IV fluid use in children vomiting secondary to acute gastroenteritis.

Methods: This clinical trial was performed at a single ED at Alberta Children's hospital. Children 3 months to 10 years who received oral ondansetron for suspected gastroenteritis were candidates. The children were excluded if symptoms were not consistent with acute gastroenteritis, localized abdominal pain, < 8 kg, or chronic medical conditions. Different formulations of ondansetron were available in alternating days starting at 8 a.m. A standard gastroenteritis protocol was performed in the ED, and if the child required Zofran, they received that days formulary. Nurses then recorded the fluids and if the patient vomited. Primary outcome was if the patient vomited within 15 minutes of receiving medication. Secondary outcome was proportion of children discharged home from the ED without IV fluid administration. Data was then analyzed as both an intention-to-treat analysis and as-treated analysis.

Results: 534 patients received Zofran during the study period. 209 were managed on ODT days and 253 on OS days. 3.8% patients of the ODT group vomited within 15 minutes. 7.5% of the OS group vomited within 15 minutes. The proportion of patients discharged home without IV fluids was similar in each group (0.914 ODT vs. 0.941 of OS). This was not statistically significant. Using an as-treated analysis, there was a statistically significant difference in the proportion that vomited within 15 minutes (2.7% ODT vs 9.5% OS). There was no statistical difference in the proportion sent home without IV fluids.

Bottom Line: Ondansetron ODT may have slightly better tolerability compared to an oral solution in children with acute gastroenteritis. However, if true, the difference is small and has no difference in terms of IV fluid administration.
