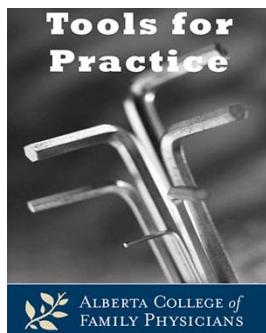


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Can ondansetron help children vomiting due to gastroenteritis?

Clinical Question: In children presenting with vomiting associated with gastroenteritis, what are the benefits and harms of ondansetron?

Evidence:

Systematic reviews and a randomized controlled trial (RCT)

- Systematic review¹ with ondansetron, 6 RCTs, 745 patients (5 of 6 emergency setting), oral or IV
 - Ondansetron statistically significantly improved
 - Admission: ondansetron 7.5% versus placebo 14.6% (number needed to treat (NNT) 14)
 - Need for IV fluids: 13.9% versus 33.9% (NNT 5)
 - Still vomiting in emergency: 16.9% versus 37.8% (NNT 5)
 - No change in return to care
 - Increased diarrhea (no numbers given):
 - Some suggest it is due to more fluids and toxins reaching the colon (not vomited)²
- Two other systematic reviews^{2,3} of ondansetron generally support these results
 - Both indicate the evidence is limited at present and one³ suggests it is too early to recommend ondansetron routine administration.
- Newer RCT of ondansetron versus placebo also found similar numbers for reduced vomiting and reduced need for IV fluids/admission.

Context:

- Evidence for other medications for vomiting due to gastroenteritis in paediatrics is poor and/or limited¹
 - A more recent RCT found dimenhydrinate (gravol) suppositories improved stopping vomiting (NNT 5) but not admission rates.⁵
- Ondansetron appears cost-effective in this setting.⁶
- An evidence-based review of ondansetron for gastroenteritis by the Canadian Paediatric Society⁷ recommended

- A single oral dose of ondansetron for children (age 6 months to 12 years)
 - With mild to moderate dehydration or failed oral rehydration
 - And not predominantly moderate to severe diarrhea.
- Ondansetron can be administered IV or orally (dissolving formulations available):
 - Oral doses example: 2mg if 8-15kg, 4mg if 15-30kg, and 6-8mg if >30kg

Bottom-line: While most cases of paediatric gastroenteritis are self-limiting, a single dose of oral ondansetron can help reduce vomiting, the need for IV fluids and likely admission.

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