Intramuscular Versus Oral Ondansetron for Management of Children with Acute Dehydrating Diarrhea and Vomiting: A Randomized Controlled Trial

Original Article

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ABSTRACT

OBJECTIVES

To compare efficacy and safety of intramuscular (IM) ondansetron with oral ondansetron for improving utilization of Oral Rehydration Therapy (ORT) by controlling vomiting in children with acute diarrhea and some dehydration.

METHODS

We enrolled children aged 3 months to 12 years presenting with acute diarrhea (duration < 14 days) with some dehydration, and at least two episodes of vomiting within last 6 h in an open-label randomized controlled trial. Participants were randomized to receive single dose (0.2 mg/kg) of IM or oral ondansetron before starting ORT. Primary outcome was failure of ORT (persistence of some dehydration after 4 h of ORT or need for intravenous fluids). Secondary outcomes included need for unscheduled intravenous fluids, amount of Oral Rehydration Salt Solution (ORS) ingested after 4 h, frequency of vomiting episodes, adverse effects, and caregiver satisfaction.

RESULTS

We randomized 60 children (31 IM, 29 oral); 58 (29 per group) were followed-up for all outcomes. There were no significant differences between IM and oral routes in terms of ORT failure (31% vs. 24.1%; RR (95% Cl) 1.3 (0.5, 3.0), P = 0.557), need for IV fluids during ORT (24.1% vs. 20.7%; P = 0.753), mean (SD) ORS ingested (mL) in 4 h [616.2 (429.7) vs. 645.5 (403.5); P = 0.79], mean (SD) frequency of vomiting [1.4 (2.0) vs. 2.3 (2.4); P = 0.107] or caregiver satisfaction. No adverse events attributable to the intervention were observed.

CONCLUSION

Intramuscular ondansetron may not off er any advantage over oral use in management of children with acute diarrhea with vomiting and some dehydration.

Keywords: Acute gastroenteritis · Oral rehydration therapy · Some dehydration · Treatment failure

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