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Triage Administration of Ondansetron for Gastroenteritis in children; a randomized controlled trial

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INTRODUCTION

- Ondansetron is effective to decrease hospitalisation of children with gastro-enteritis
- Nurse-led initiative at triage can improve flow through the ED
- Administration at triage of ondansetron may be beneficial

OBJECTIVES

- To assess the effectiveness of triage nurse-initiated administration of ondansetron for children with suspected gastroenteritis in the paediatric emergency department to reduce the number of patients requiring ED observation following first physician assessment.

METHODS

▪Study design: A randomized double –blind clinical trial

▪Setting:
- A tertiary care paediatric emergency department
- Montreal
- 2018-2020

▪Participants (convenience sample):

Inclusion:
- Age 6 months to 17 years
- Suspected gastro-enteritis (> 3 vomiting)

Exclusion:
- Severe dehydration
- Bloody stool/ hematemesis
- Past abdominal surgery
- Allergy to ondansetron
- Long Qt syndrome
- Consent problem

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▪ Intervention:
Ondansetron provided just after triage (2, 4 or 8 mg)
Placebo (sucrose solution)

▪ Primary outcome:
Intervention success defined by
ED discharge immediately after 1st medical evaluation

▪ Secondary outcomes:
ED length of stay
Number of vomiting
Disposal
Return to the ED

▪ Randomization and concealment:
Block randomization of variable size 1:1 ratio
Concealment with opaque envelopes
Study medication prepared before by pharmacy

▪ Procedure:
Participants identified by triage nurses
Consent obtained at triage by a research nurse
Intervention after signature of the consent
Standardized rehydration 15mL per 15 minutes
Evaluation by an ED physician
Phone follow-up at 72 hours

▪ Ethics:
Informed consent signed by patients/families

This study did not demonstrate any benefit in using ondansetron at triage for children with presumed gastroenteritis.

Tx success: 44%$_{ondansetron}$ vs. 45%$_{placebo}$

Difference: 1% (95% CI -20% to 19%)

RESULTS

Characteristics	Ondansetron n=43	Placebo n= 47
Median age in months (IQR)	36 (26, 75)	53 (24, 72)
Median weight in Kg (IQR)	15 (12, 21)	15 (13, 23)
Sex male (%)	24 (56)	26 (55)
Vomiting in previous 24h		
• 3-5	• 6 (14)	• 3 (6)
• 6-10	• 20 (47)	• 19 (40)
• >10	• 17 (40)	• 25 (53)
Length of symptoms:		
• 0-4h	• 2 (7)	• 3 (10)
• 4-<24h	• 6 (19)	• 6 (19)
• 24-<72h	• 6 (19)	• 5 (16)
• >= 72h	• 17 (55)	• 17 (55)
Median wait time in minutes to see physician	163 (125, 213)	160 (126, 211)

Outcomes	Ondansetron n=43	Placebo n=47	Difference in % (95% CI)
Patients discharged immediately after initial medical assessment	19 (44)	21 (45)	-1 (-20 to 19)
Oral rehydration volume (mL) at physician evaluation	60	58	2 (-18 to 21)
Any vomiting before seeing the physician	12 (28)	6 (13)	15 (-2 to 31)
Need for rescue medication	17 (40)	10 (21)	19 (-0.6 to 36)
Need for IV rehydration	6 (14)	3 (6)	8 (-6, 22)
Median length of stay after physician evaluation	72 (17, 194)	68 (20, 140)	p=0.821*
Median ED length of stay	232 (180, 395)	227 (180, 335)	p= 0.677*
Return to the ED in the following 48h	3 (7)	4 (9)	-2 (-14 to 11)