Antiemetics May Not Benefit ED Patients

Emergency Department intravenous therapy with metoclopramide and ondansetron decrease nausea severity only minimally compared with placebo.

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Metoclopramide or ondansetron may not significantly reduce nausea severity in emergency department (ED) patients versus placebo, according to a recent randomized controlled trial performed in Australia.

Diana Egerton-Warburton, MBBS, and colleagues sought to compare the potential benefit of treatment with IV ondansetron and metoclopramide versus saline placebo. Prior research investigating antiemetics in oncology and post-operative patients with nausea and vomiting supports the use of such medications. However, research on antiemetic treatment for nausea and vomiting in the ED setting is limited. The few studies on ED patients where symptoms were already present found only minimal reductions in nausea severity by IV antiemetics.

Investigators performed a randomized controlled trial at 2 EDs over 12 months total. Enrolled patients were ≥18 years old, were experiencing nausea and vomiting, completed required necessary recordings, and warranted recommendation from the attending physician to receive IV antiemetics for their treatment. A total of 258 patients were enrolled in the analysis.

Patients gave initial nausea severity ratings via a visual analog scale (VAS) ranging from "no nausea" to the "worst nausea imaginable". They were then treated with either metoclopramide 20 mg IV or ondansetron 4 mg IV or a placebo of saline injection.

Thirty minutes after treatment, patients repeated their nausea severity ratings and answered questions describing the change in their symptoms. Attending physicians then decided if rescue medication (ondansetron 8 mg IV) was required.

Ondansetron and metoclopramide were similar in their ability to alleviate symptoms and not significantly different than placebo. The difference in the median VAS severities at enrollment compared to 30 minute reassessments were: ondansetron 27 mm change (95% confidence interval [CI], 22-33 mm), metoclopramide 28 mm change (95% CI, 22-34 mm), and placebo 23 mm change (95% CI, 16 to 30 mm).

Secondary outcomes were reduction in number of vomiting episodes, patient satisfaction, need for rescue medication, change in the symptom severity on a numeric scale and subjectively. The only secondary outcome found to be significantly different with treatment was a reduction in need for rescue medication with metoclopramide. However, researchers noted the findings "inconsistent with the results for symptoms severity reduction and patient satisfaction, particularly in the metoclopramide group," and therefore deemed the value of this result limited.

Overall the findings were consistent with 2 prior randomized placebo-controlled trials in ED patients. Although the administration of metoclopramide and ondansetron lead to slightly higher VAS score reductions, statistically the score differences were insignificant. "….antiemetic drugs do not significantly contribute to ED nausea and vomiting management, beyond other measures for the primary condition and provision of intravenous fluids," the researchers concluded.

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1. *Egerton-Warburton D, Meek R, Mee MJ, Braitberg G. Antiemetic Use for Nausea and Vomiting in Adult Emergency Department Patients: Randomized Controlled Trial Comparing Ondansetron, Metoclopramide, and Placebo. Ann Emerg Med. 2014 Nov;64(5):526-532*