

Efficacy and Safety of Enteral Erythromycin Estolate in Combination With Intravenous Metoclopramide vs Intravenous Metoclopramide Monotherapy in Mechanically Ventilated Patients With Enteral Feeding Intolerance: A Randomized, Double-Blind, Controlled Pilot Study

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Taniya Charoensareerat, BCPS¹; Rungsun Bhurayanontachai, MD²;
 Sirima Sitaruno, BCP³; Asma Navasakulpong, MD⁴; Apinya Boonpeng, PharmD⁵;
 Sanguan Lerkiatbundit, PhD⁶; and Sutthiporn Pattharachayakul, BCP⁷

Abstract

Background: In this pilot study, we aimed to determine the efficacy and safety of enteral erythromycin estolate in combination with intravenous metoclopramide compared to intravenous metoclopramide monotherapy in mechanically ventilated patients with enteral feeding intolerance. **Methods:** This randomized, double-blind, controlled pilot study included 35 mechanically ventilated patients with feeding intolerance who were randomly assigned to receive 10-mg metoclopramide intravenously every 6–8 hours in combination with 250-mg enteral erythromycin estolate (study group) or placebo every 6 hours for 7 days. The primary outcome was an administered-to-target energy ratio of $\geq 80\%$ at 48 hours, indicating a successful feeding. Secondary, prespecified outcomes were daily average gastric residual volume (GRV), total energy intake, administered-to-target energy ratio, hospital length of stay, in-hospital mortality, and 28-day mortality. **Results:** The rate of successful feeding was not significantly different between the study and placebo groups (47.1% and 61.1%, respectively; $P = .51$). The average daily GRV was significantly lower in the study group than in the placebo group ($\beta = 91.58$ [95% Wald CI, -164.35 to -18.8]), determined by generalized estimating equation. Other secondary outcomes were comparable, and the incidence of adverse events was not significantly different between the 2 groups. One common complication was cardiac arrhythmia, which was mostly self-terminated. **Conclusion:** Although the combination therapy of enteral erythromycin estolate and intravenous metoclopramide reduced GRV, the successful feeding rate and other patient-specific outcomes did not improve in mechanically ventilated patients with feeding intolerance. (*JPEN J Parenter Enteral Nutr.* 2021;45:1309–1318)

Keywords

erythromycin estolate; feeding intolerance; gastric residual volume; mechanical ventilation; metoclopramide

From the ¹Faculty of Pharmacy, Siam University, Bangkok, Thailand; ²Critical Care Medicine Unit, Division of Internal Medicine, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand; ³Department of Clinical Pharmacy, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Songkhla, Thailand; ⁴Respiratory and Respiratory Critical Care Medicine Unit, Division of Internal Medicine, Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand; ⁵School of Pharmaceutical Sciences, University of Phayao, Phayao, Thailand; and ⁶Department of Pharmacy Administration, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Songkhla, Thailand; ⁷Department of Clinical Pharmacy, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Songkhla, Thailand.

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Corresponding Author:

Rungsun Bhurayanontachai, MD, Critical Care Medicine Unit, Division of Internal Medicine, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.
 Email: rungsun2346@gmail.com