Proton pump inhibitor dosing for acute ulcer bleeding

AFTER THE PUBLICATION OF “IMPACT OF ACADEMIC DETAILING ON proton pump inhibitor prescribing behaviour in a community hospital”¹ in 2011, there has been new evidence evaluating the dose of proton pump inhibitor (PPI) for acute ulcer bleeding after endoscopy.

In 2010, a guideline was published for nonvariceal upper gastrointestinal bleeding.² After successful endoscopic therapy, for patients with high-risk stigmata, the recommendation is to give an intravenous bolus followed by continuous-infusion PPI.² This is similar to the recommendation from the 2012 guideline in the *American Journal of Gastroenterology*, in which the same dosing regimen is recommended for 72 hours in patients who had successful endoscopic hemostasis with active bleeding ulcer, a non-bleeding visible vessel or adherent clot.³

A Cochrane review, “Comparison of different regimens of proton pump inhibitors for acute peptic ulcer bleeding,” was published in 2013.⁴ The study evaluated the clinical outcomes of using different dosing regimens of PPI in endoscopically diagnosed peptic ulcer bleeding.⁴ There were 13 studies included in the main analysis, but not all patients received initial endoscopic hemostasis treatment. Patients did not receive endoscopic hemostasis treatment in 1 study, 6 studies included variable portions of patients who underwent endoscopic hemostasis treatment and all patients received initial endoscopic hemostasis treatment in the other 6 studies.⁴ The authors’ conclusion was “there is insufficient evidence for concluding superiority, inferiority or equivalence of high-dose PPI treatment over lower doses in peptic ulcer bleeding.”⁴ The reason was that the quality of evidence was low for the following outcomes: mortality, rebleeding, endoscopic hemostatic treatment and surgical interventions.⁴

A systematic review and meta-analysis was published in 2014⁵ that specifically looked at the outcomes for continuous infusion of PPI versus intermittent PPI in patients with high-risk bleeding ulcers after successful endoscopic hemostatic treatment. The authors found that intermittent PPI was noninferior to continuous infusion for the primary outcome, which was rebleeding within 7 days. However, the randomized clinical trials included were of variable quality, and because of

the variable doses used in intermittent dosing, it is difficult to conclude the optimal dose.⁵

The 2015 European Society of Gastrointestinal Endoscopy guideline made a strong recommendation with high-quality evidence for intravenous bolus with continuous PPI infusion for 72 hours in patients with endoscopic hemostasis and for patients not receiving endoscopic hemostasis with adherent clot.⁶ The organization suggests that intermittent intravenous bolus dosing (at least twice daily) for 72 hours postendoscopy may be considered, with a weak recommendation and moderate-quality evidence.⁶

The optimal dose for PPI in acute ulcer bleeding postendoscopy remains controversial, based on the above systematic reviews and guidelines. Additional factors in considering using the intravenous bolus followed by continuous infusion PPI for 72 hours post endoscopy may depend on the severity of the bleed, the type of endoscopic hemostatic treatment used and whether hemostasis was achieved.

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References

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