

Nasogastric aspiration has limited utility for triaging patients suspected to have upper GI bleeds.

Bottom line:

- Nasogastric aspiration (NGA), used by physicians to evaluate upper GI bleeding, has not been shown to alter management or outcome.

Clinical question:

- In a patient with suspected upper GI bleeding, is performing an NGA beneficial?

Clinical scenario:

- Mr. B presents with melena and a hemoglobin change from 12 g/dl to 9 g/dl over a one-week period. Should he receive an NGA prior to endoscopy?
 - Would performing the NGA assist in establishing his prognosis?
 - Would it alter management decisions?
 - Would it help with therapy?

Evidence:

- There were no RCTs comparing outcomes in patients presenting with possible upper GI bleeds who were randomized to either receive NGA versus continued monitoring for clinical signs of active bleeding.
- *Corley et al* retrospectively studied patients with suspected upper GI bleeds to identify independent risk factors for rebleeding complications.
 - 335 admissions with diagnosis of upper GI hemorrhage. All underwent endoscopy and were evaluated for adverse outcomes, including death, need for operation, recurrent hematemesis, falling hematocrit, recurrent melena.
 - Red blood found in the NGA was associated with a 10% greater risk of an adverse outcome when adjusted for 4 other risk factors: evidence of portal hypertension, hematemesis, initial systolic BP <100, and Hct <30.
- *Cuellar et al* studied the relationship between physicians' assessment of active upper GI bleeding based on the appearance of NGA and findings on endoscopy.
 - NGA followed by endoscopy were performed on 62 patients thought to have upper GI bleeding. Physicians were asked to document whether they thought the patient had active bleeding based on the appearance of the aspirate.
 - Physician assessment of active bleeding based on appearance of blood in the aspirate was 79% sensitive and 55% specific, compared to endoscopy as the definitive test.
 - Limitations: The study was not blinded. There were inconsistent intervals between NG tube placement and endoscopy among study subjects.
 - Conclusion: NGA is a poor test for determining the acuity of an upper GI bleed.

Comments:

- NGA is not likely to change the treatment plan for Mr. B.
 - Will an NGA help us rule out an upper GI bleed? If the NGA is negative, there is still at least a 20% chance that endoscopy will find active bleeding from his upper GI tract, which is sufficiently high that he would still need an endoscopy.

- Will an NGA help us rule in an upper GI bleed? Blood on NGA could be secondary to trauma associated with NGT placement. We don't know the frequency with which this occurs but it is assumed to be uncommon. Therefore, red blood on NGA, or Heme + coffee ground material, implies recent upper GI bleeding, which could lead to a decision to perform and upper endoscopy before, or instead of, a colonoscopy.
- Will the NGA help determine the acuity of the bleeding? No. Red blood by NGA is only 55% specific for active bleeding found at endoscopy.
- Will the NGA help us risk stratify Mr. B for immediate v. delayed endoscopy? Depending on the common practice at the medical center where he receives care, the decision of whether to perform urgent endoscopy will not likely hinge on the appearance of a nasogastric aspirate, but rather on hemodynamic instability and a dropping hematocrit.
- NG tube placement is not a benign intervention. Acute complications associated with NG tube placement include vocal cord paralysis, and esophageal perforation, knotting complicating removal.
- Further prospective and randomized controlled trials are needed to better assess the utility of NGA in patients with suspected upper GI bleeds.

Citations:

Corley D, Stefan A, Wolf M, Cook F, Lee T. "Early indicators of prognosis in upper gastrointestinal hemorrhage." American J of Gastroenterology 1998; 93, 336-340.

Cuellar R, Gavalier J, Alexander J, Brouillete D, Chien M, Yoo Y, Rabinovitz M, Stone B, Van Thiel D. "Gastrointestinal Tract Hemorrhage: The value of a nasogastric aspirate." Archives of Internal Medicine 1990; 150, 1381-1384.

Leung F. "The venerable nasogastric tube." Gastrointestinal Endoscopy 2004; Vol 59, No 2.

Peter D, Dougherty J. "Evaluation of the patient with gastrointestinal bleeding: an evidence based approach." Emergency Medicine Clinics of North America 1999; 17, 239-261.