

Journal Club Block 10 (March 23, 2016)

Discussion Leaders: Natalie Williams, DO; Rob Nichols, DO; Laura Field, MD

Faculty Host: Alan Dupre, MD

TOPIC:

In which adult patients with acute upper GI bleed does immediate endoscopy reduce patient morbidity, mortality, and use of hospital resources?

Scenario: You're working at the Level I Trauma Center, where you have all or mostly all consultants on hand in a timely fashion if needed. You have the following three patients below (and its 3 AM). [***see toward end of synopsis***]. As an Emergency physician, you seek instant gratification as you'd like to identify the source of their bleeding - preferably sooner than later (you also want to meet your dispo metrics). Should you call GI **right now** for one, two, or all three patients? You decide to consult the gastroenterologist on call, and you hear her ever-so-pleasant voice on the other line. She scoffs and says to have the hospitalist admit and have them consult her group later on. You then recall thumbing through the GI literature, and remember studies seeking whether early endoscopy improves outcomes. You mention this to the GI doc, to which she says, "it doesn't" and hangs up on you. Who is correct in this battle?

Articles for Discussion:

1. Peterson WL, Barnett CC, Smith HJ, Allen MH, Corbett DB. Routine early endoscopy in upper-gastrointestinal-tract bleeding: A randomized, controlled trial. *N Engl J Med*. 1981;304:925-929.

This was the groundbreaking study (and a randomized control trial at that, which was why it was chosen) discussing GI bleeding and the gastroenterology literature frequently cites this article. As echoed by a local expert, "Sometimes in order to move forward, you have to look back." The goal in this study was to determine if routine early endoscopy would benefit patients that were hospitalized. A total of 206 patients were enrolled in the study, 100 for routine endoscopy (within four hours of stabilization) and 106 for no routine endoscopy. The group of 106 patients underwent endoscopy while hospitalized only if they experienced recurrent bleeding. Upon comparison of the two groups, there were no significant differences in hospital deaths, bleeding recurrence, transfusions required, deaths due to bleeding, or hospital length of stay. The researchers even went further to evaluate patient outcomes twelve months after discharge and again found no significant difference. It was determined that endoscopy should not be considered "routine."

2. Conn, H. O. "To scope or not to scope." Editorial. *New England Journal of Medicine* 16 Apr 1981;304:967-969.

I felt it would be different to include an editorial for discussion at a Journal Club - especially since it addressed the article above. And with the title "To scope or not to scope," it was hard not to include it - after all, that was the question I pretty much had for this Journal Club. Even the gastroenterologists themselves could not come to a consensus on this topic prior to Peterson's study above. It was believed that early endoscopy improved outcomes. Studies before Peterson's in 1981 attempted to tackle this question unsuccessfully due to varied protocols in their studies. It was also noted that the majority of patients stabilize with medical management. Basically as the writer of this editorial states, "In my opinion it is not acceptable for physicians to apply empiric, all-or-nothing rules in the treatment of lethal lesions." However emergency endoscopy appears to help with identification of lesions and determining subsequent treatment. The author states that subgroups such as varices, liver disease and rebleeding could benefit from early endoscopy and that patients with varices and rebleeding have a greater risk of dying.

3. Botianu, Ana-Maria, Daniela Matei, M. Tantau, and Monica Acalovschi. "Urgent versus early endoscopy in high risk patients with acute upper gastrointestinal bleeding: a comparative study in a tertiary center with a permanent endoscopy call." *Romanian Journal of Internal Medicine*. 2013;51(1): 35-40.

The investigators here acknowledged that the ideal time for endoscopy remains a topic of debate. They included variceal and nonvariceal reasons for bleeding. Urgent (less than 3 hours) and early (between 3 and 24 hours) endoscopy was compared via a retrospective and nonrandomized study. In the study, 389 patients had urgent endoscopy while 300 had early endoscopy. It was found that no significant differences were present among the two groups (outcomes were in-hospital mortality, rebleeding and length of hospital stay).

4. N Sarin, N Monga, PC Adams. "Time to endoscopy and outcomes in upper gastrointestinal bleeding." *Canadian Journal of Gastroenterology*. 2009;23(7):489-493.

Because endoscopy had evolved over the years, investigators in this study wanted to evaluate whether outcomes would be different compared to what older studies concluded. This was a retrospective chart review. This article evaluated three separate timings of endoscopy: less than 6 hours, from 6 to 24 hours, and greater than 24 hours. It was found that there were no differences in outcomes between the first two groups, and endoscopy within 24 hours was sufficient (They defined primary outcomes as mortality, need for surgery to stop bleeding, while secondary outcome was difference in transfusion requirements).

Background Articles:

1. Mihata RG, Bonk JA, Keville MP. Resuscitation of the patient with massive upper gastrointestinal bleeding. *EM Crit Care*. 2013;3(2):1-12.

This article was targeted to emergency medicine physicians and describes optimizing patient outcomes via proper management via emergent endoscopy, transfusions, medications. A fantastic synopsis, as patients who present with GI bleeding have dispositions that can range from outpatient follow up to throwing the kitchen sink in order to keep them alive.

2. Rajala, Michael W., and Gregory G. Ginsberg. "Tips and Tricks on How to Optimally Manage Patients with Upper Gastrointestinal Bleeding." *Gastrointestinal Endoscopy Clinics of North America*. 2015: 25(3): 607-617.

We often look to literature targeted to Emergency Medicine, but I felt it was prudent to pull some of that focused toward what Gastroenterologists do. This article discussed ways to better evaluate and manage GI bleeding, something I felt we should be familiar with, especially since we frequently encounter patients who ask what medical management will be performed while they are hospitalized.

3. Das AM, Sood N, Hodgins K, Chang L, Carson SS. "Development of a triage protocol for patients presenting with gastrointestinal hemorrhage: a prospective cohort study." *Critical Care*. 2008;12(2):R57

Investigators were wanting to determine if developing a triage protocol based on risk factors could decrease use of the ICU. They found that patients presenting to the ED who had no unstable comorbidities or evidence of ongoing bleeding were low risk for hospital complications.

YOUR THREE PATIENTS (management consensus from the group at Journal Club):

1. 38-year old male who presents to the ED complaining of "vomiting straight blood" for the past several hours. "Has never happened before." He was binge drinking throughout the night and had been vomiting

thereafter. Appears pale & in mild distress. BP 78/44, HR 132, R 20, afebrile, 100% oxygen saturation on room air.

Would call GI after/while resuscitating.

2. 67-year old female who presents due to one episode of bright red blood emesis prior to arrival. She takes ibuprofen three times daily for her chronic aches and pains. She does appear slightly pale but is not in acute distress. BP 124/72, HR 84, R 16, afebrile, 100% oxygen saturation on room air

Given the stability of this patient, would likely consult GI for outpatient follow up

3. 88 year old male with a history of HTN, diabetes, and CAD presents complaining of hematemesis for the past three hours. Does admit to a chronic history of alcohol abuse. Reports that he has had an EGD in the past. He appears extremely pale, diaphoretic and in distress. BP 82/56, HR 128, R 22, afebrile, 97% oxygen saturation on room air

Here, we agreed that upon stabilization of the patient, we would consult not only GI, but also General Surgery & Interventional Radiology- this patient would most likely not do well regardless of intervention

Rationale for article selection: I intentionally searched for articles that did not address whether the GI bleed was variceal or not – after all, when the patient presents to us in the ED, we are not always certain. These articles sparked quite a bit of discussion. In dividing the attendees into two groups, one arguing for immediate GI consult and endoscopy versus the other group arguing against the same. For our three patient clinical scenarios above, the consensus from the group is noted above.

Bottom line: Each patient is unique in their presentation and frequently the answer to the intervention needed is “it depends.” Ultimately management is an interdisciplinary effort, and we may make a simple call to GI for outpatient follow up versus gathering all help - from GI, General Surgery, and Interventional Radiology.

Many many thanks to all who were able to attend and contribute to our discussion. Thank you as well to Drs. Dupre, Nichols, & Field for collaborating on this topic, and to Dr. Pat Storms for his GI pearls.