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Strategies to Better Detect, Treat, & Manage Upper GI Bleeding

Dr. Buch:
Gastrointestinal bleeding is a common clinical condition. And while upper GI bleeding is less frequent than lower GI bleeding, it requires a different approach for diagnosis and treatment. So, how can we better detect and manage this condition?

This is *GI Insights* on ReachMD. I'm Dr. Peter Buch, and joining me today is Dr. John Saltzman, Director of Endoscopy at the Brigham and Women's Hospital and Director of the Brigham and Women's Hospital Advanced Endoscopy Fellowship Program.

Dr. Saltzman, it's great to have you with us.

Dr. Saltzman:
Well, thank you for that introduction. I'm delighted to be here today and to speak to you on a favorite topic of mine.

Dr. Buch:
To start us off, Dr. Saltzman, can you tell us why the restrictive strategy of blood transfusion is safer?

Dr. Saltzman:
Yes, so the restrictive strategy is a strategy that came into GI bleeding after a paper from Villanueva in Spain in 2013 that was published in the *New England Journal*, and what they did is they stratified patients presenting with GI bleeding to standard of care, which at that time was hemoglobin transfusion targets of 9 or 10—so we used to try to shoot for hematocrit of about 30, and they saw what happened when they compared these 2 outcomes. And what happened is there was a clear and significant difference in mortality between these 2 groups which favored the restrictive strategy of the 7 gram per deciliter target.

Now, there have been several other studies that have been done that have confirmed this observation, so this has come up to be now part of our standard of care. And I should mention that the study was done in both nonvariceal and variceal bleeding, and there was clearcut benefit in the variceal bleeders.

Dr. Buch:
And how do you use pre-endoscopic risk scores in your practice?

Dr. Saltzman:
Pre-endoscopic risk scores is a fascinating topic. It's been recommended to be used by clinicians ever since the 2010 international guidelines on the management of GI bleeding and has been in practically every guideline since then.

As I think about guidelines, I think about it in 2 situations. One is low-risk patients, and the second is high-risk patients. So, if we go to low-risk patients first, these are patients that come in with GI bleeding and upper GI bleeding, perhaps with melena, and are typically admitted to the hospital and wait until they have their endoscopy, and after their endoscopy you make decisions on how to manage them, and we see how they do over the first 24 hours. Well, if you look at the world of patients admitted to the hospital with upper GI bleeding, about a third of them are actually low-risk bleeders who are not going to require blood transfusions, are not going to require an endoscopic intervention and actually probably could be managed at home, or the majority of them could be managed as outpatients with a facilitated outpatient workup.

The best score is the Glasgow-Blatchford score. It's a pre-endoscopic score, meaning you do not need an endoscopy to calculate its values. It's a little cumbersome and has 8 different categories, and they are weighted categories, so your maximum score can be up to 23. Despite the cumbersomeness of this, the score is easily calculable. The Blatchford score is interesting because it also can predict high-risk bleeders, and in many studies you'll see high-risk bleeders having a score of 12 or more.

Because this was not being used extensively, I helped derive a score which I call the AIMS65 score, and the AIMS65 score stands for albumin of less than 3, which actually is the greatest predictor of mortality in GI bleeders, an INR greater than 1.5, and mental status change less than 15—which although we gastroenterologists don't measure this, it's in every emergency department note—a systolic blood pressure of less than 90 and age of greater than 65. They all count for 1, and you can calculate it in your head without relying on calculators; if you have a score of 0 or 1, you are a low-risk bleeder; if you have a score of 2, you're about an average risk to slightly above average risk; and if you have scores of 3, 4 and 5, your mortality rate is 10, 20 and 30%. I think it's just helpful to know who's at high risk and to direct our resources using ICU, be very aggressive, and who's at low risk and can manage as an outpatient.

Dr. Buch:
Based on your experience, what is the optimal timing for an endoscopy in upper GI bleeding?

Dr. Saltzman:
This is another area that I've been fascinated with, and my fascination comes from being on-call and being very unlucky while I'm on-call. I became an expert in this as I got the majority of the bleeders in my academic hospital when I was on-call, and at the time the prevailing wisdom was, as soon as the patient was admitted and checked into the system, you should do an endoscopy, and intuitively that did not make sense to me because I thought there were other factors and I had seen some patients not do well with this strategy for a variety of reasons.

I think the most interesting study that came out of this in the last couple years is by Larsen, which is an all-Denmark study, and basically a simple study. They just said if you look at mortality, number of hours from admission of when you got endoscopy, is there any trend? And they looked at ASA status and hemodynamically stable versus unstable, but in all those categories, if you did an endoscopy early on, it was associated with the highest mortality, and in the sicker patients, if you do it too late, it was associated with a higher mortality. So there was a sweet spot that was somewhere between 12 and 24 hours of being the time with the lowest mortality if you did an endoscopy, so that seemed to go along with our clinical judgment.

So, for me, I think the main thing to do as patients come in is to get 2 large port IVs in, start your resuscitation, and think about what is the optimal timing of endoscopy; and generally, I try to scope between 12 and 24 hours, and only very rarely in patients who are just not responding will I be scoping earlier than that.

Dr. Buch:
For those just joining us, this is *GI Insights* on ReachMD. I'm Dr. Peter Buch, and today I'm speaking with Dr. John Saltzman about upper GI bleeding.

So, Dr. Saltzman, if we zero in on treatment strategies for patients with upper GI bleeding, when would you recommend the following therapies: hemostatic sprays, thermocoagulation, sclerosant injection, clips, or a combination?

Dr. Saltzman:
I'll start off with injection therapies. Injection therapies are typically of dilute epinephrine 1:10,000 or 1:20,000, which primarily exerts its effect by a hemostatic effect, a fluid compressing the vessel. The epinephrine obviously helps for the vessel in spasm. It by itself is not as durable a therapy as any of the other therapies or combination therapies, so in general we don't recommend using injection of epi as a monotherapy but used in conjunction and in combination therapies.

You also mentioned sclerosant, and you can use medications like ethanol, which are a sclerosant that will treat peptic ulcers. It has been shown that this is an effective treatment. It's not what we typically use in the United States, and I generally would avoid it because it does cause further tissue damage.

Next is thermal therapies. This is like our BiCap probes that we all know and love. And BiCap probes are great because they can irrigate and cauterize, and the technique is using coaptive coagulation where you compress the vessel and cauterize, and then you typically hit the water button to get off of it so you're not stuck on to the vessel and do it again. It's a very effective therapy as part of our standard.

The next therapy are through-the-scope clips. You can now rotate and open and close, and the idea is to get right over the vessel and to stop the bleeding or to seal it from further bleeding. They can be used in most situations, so they can be tough in certain locations, or fibrotic vessels which you do need to know how to use other strategies.

But these are the standard therapies: injection and BiCap injection and clips or some combination of them. I will use injection in combination if it's a big vessel and not bleeding, I'll use it before I do therapy to try to throw into the spasm. If it's a bleeding vessel, I'll use injection so I can localize my other modality of treatment. And if I've gone ahead and used a clip or BiCap without injecting first, if I have any oozing or residual problem, I'll treat it with injection.

Finally, I believe you asked me about hemostatic spray, and it's a spray therapy that only works in active bleeding, and it's incredibly effective at stopping bleeding.

What you do need to know is that there is a re-bleed rate with this, but overall, it works in malignant bleeding, particularly in oozing malignant bleeding, which in the past none of our therapies have worked well.

Dr. Buch:
How many times should an endoscopy be repeated before moving on to interventional radiology or surgery?

Dr. Saltzman:
Yeah, it's a great question, and there's no single answer to that. I assume that the initial endoscopy is done, you find the vessel or their bleeding source, and you treat it by a modality that you're familiar with. The first question I have is: Do you think you did a good job? There are some cases where you walk away and you go, "I got that. I know I got that." And there are other cases where you're not so sure how well you got it or you're afraid that the vessel is so big, even though it stopped, if it opens up again, you may not be able to control it.

So I think that if you have a strategy where we try to treat everything ourselves initially, if it doesn't work, they have to go on to another modality. If they are re-bleeding, we should try it, although we're only about 50% effective, but you have to be very diligent in our endoscopic methods, and have a plan if this is not working with IR and with surgery to be your backup.

Dr. Buch:
And when should we resume aspirin and antithrombotic medicines after an upper GI bleed?

Dr. Saltzman:
Yeah, this is the issue of the time. The Hong Kong group and Joseph Sung published in the *Annals of Internal Medicine* a study that they did where they took patients admitted with bleeding peptic ulcers who were on aspirin as secondary prevention, meaning they already had a cardiovascular event and were recommended to stay on aspirin, but they came in bleeding, and after they stopped the bleeding endoscopically, they randomized them to stay off of the aspirin for 30 days or to resume aspirin as soon as they were stable. And what they found, if they resumed their aspirin, they had twice the risk of bleeding. However, if they withheld the aspirin, they had 9 times the mortality rate over 30 days. So clearly, although we don't want to see re-bleeding, we don't want our patients to die after these episodes, and if patients are on it for secondary prevention, we need to get them back.

The entire range of how long I withhold aspirin on a patient who has GI bleeding is 1–4 days—1 day if they come in and I'm holding it and I do an endoscopy and they have a low risk of bleeds, I start them back up, 4 days if I do major therapy and I observe them for 72 hours and now they are stable, I get them back on a PPI, I'll start their aspirin again. And these patients should be maintained on a PPI thereafter as long as they need to stay on these drugs. If you have a GI bleed on these drugs and you need to go back on it, your risk of further GI bleeding is lower if you're on a daily PPI.

DOACs are a little bit different because they act so quickly. Within 2 hours of taking the DOAC, you're completely therapeutically anticoagulated. That being said, if they come in bleeding on a DOAC, the first thing I do is try to hydrate and wait 24 hours to see the effect go off. I do feel like I can do an endoscopy in the second half of that time period. And then once they are stable, I get them back on their DOAC.

Again, the key is we're weighing the risks of bleeding versus the risk of thromboembolic events, and thromboembolic events always win.

Dr. Buch:
Lastly, Dr. Saltzman, are there any other insights you'd like to leave our audience with regarding upper GI bleeding?

Dr. Saltzman:
I can tell you that our treatments are getting better. Ten years ago or more, we used to think the mortality is 5–14% for a nonvariceal upper GI bleed. Now it's 2% or 3% in-hospital mortality of patients presenting, so we are doing a much better job.

Dr. Buch:
Thank you. Well, that's all the time we have for today, but I want to thank Dr. John Saltzman for joining me to help us better understand how to test for and treat upper GI bleeding. Dr. Saltzman, it was great speaking with you today.

Dr. Saltzman:
It was my pleasure. Thank you for inviting me to speak on this topic.

Dr. Buch:
For ReachMD, I'm Dr. Peter Buch. To access this episode and others from *GI Insights*, visit ReachMD.com\GIInsights where you can

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