HEMODYNAMICALLY SIGNIFICANT GASTROINTESTINAL BLEEDING AFTER MUCOSAL BIOPSY DURING UPPER ENDOSCOPY IN AN ANTICOAGULATED PATIENT

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Introduction

The periprocedural management of anticoagulated patients undergoing endoscopy remains an area of controversy.

According to the American Society of Gastrointestinal Endoscopy (ASGE) 2009 guideline on the management of antithrombotic agents for endoscopic procedures, upper endoscopy with or without mucosal biopsy is considered a low-risk procedure for bleeding even in the setting of therapeutic warfarin.

Case

32 year-old Asian female hospitalized for 1 week of severe epigastric pain, nausea with emesis and weight loss. She was Also noted to have right sided pelvic pain.

Computed Tomography (CT) Scan showed right ovarian vein thrombosis

Weight based therapeutic enoxaparin (Lovenox) at 50mg subcutaneously twice daily was given.

Elective upper endoscopy was performed due to unremitting symptoms despite acid blockage and antiemetic therapy. Mucosal biopsies were obtained.

- Approximately 12 hours post procedure the patient had large volume hematemesis with the development of a relative tachycardia with hypotension.
- Anticoagulation was discontinued and the patient was transferred to the intensive care unit.
- Baseline hemoglobin of 12.6 g/dl decreased over a 33 hour period to a hemoglobin of 6.3 g/dl requiring fluid resuscitation and transfusion of 6 units of packed red blood cells.
- Repeat Upper Endoscopy performed 48 hours after initial study.

Initial EGD

Diffuse gastric erythema prompting mucosal biopsy
No evidence of active or recent bleeding.

Follow up EGD

Note loosely formed clot at the initial mucosal biopsy site with placement of a hemastatic clip.

Table 1. Acute gastrointestinal hemorrhage in the anticoagulated patient.

The decision to reverse anticoagulation and the extent of anticoagulation reversal should be individualized, weighing the risk of thromboembolism against the risk of continued bleeding.

A supratherapeutic INR may be corrected with infusion of fresh frozen plasma. Correction of the INR to 1.5 - 2.5 permits effective endoscopic diagnosis and therapy.

Reinstitution of anticoagulation should be individualized.

Recommendations for the management of anticoagulation, aspirin and NSAID use in patients undergoing endoscopic procedures based on the relative risks of the procedure and underlying condition.

	Condition risk for thromboembolism	
Procedure risk	High	Low
High	Discontinue warfarin 3-5 days before procedure. Consider heparin while INR is below therapeutic level.	Discontinue warfarin 3-5 days before procedure. Reinstitute warfarin after procedure.
Low	No change in anticoagulation. Elective procedures should be delayed while INR is in supratherapeutic range.	

Procedure risk	
High-risk procedures	Low-risk procedures
• Polypectomy • Biliary sphincterotomy • Pneumatic or bougie dilation • PEG placement • Endosonographic guided fine needle aspiration • Laser ablation and coagulation • Treatment of varices	• Diagnostic EGD ± biopsy Flex sig ± biopsy Colonoscopy ± biopsy • ERCP without sphincterotomy • Biliary/pancreatic stent without endoscopic sphincterotomy • Endosonography without fine needle aspiration • Enteroscopy

Condition risk	
High-risk conditions	Low-risk conditions
• Atrial fibrillation associated with valvular heart disease • Mechanical valve in the mitral position • Mechanical valve and prior thromboembolic event	• Deep vein thrombosis • Uncomplicated or paroxysmal nonvalvular arterial fibrillation • Bioprosthetic valve • Mechanical valve in the aortic position

Aspirin and other NSAID use

In the absence of a pre-existing bleeding disorder, endoscopic procedures may be performed in patients taking aspirin or other NSAIDs.

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Discussion

Low risk procedures, such as EGD +/- mucosal biopsy, are defined by the ASGE as having a bleeding risk of <1% with a thromboembolic event risk of 1.9%.

The current ASGE guidelines do not recommend the discontinuation of anticoagulation prior to these low risk endoscopic procedures.

The literature suggesting that mucosal biopsy during endoscopy in the setting of anticoagulation is low risk was done primarily with patients on therapeutic warfarin.

The absolute risk of an embolic event for patients with a low risk condition such as deep vein thrombosis is 1-2 per 1000 patients.

Complications from ovarian vein thrombosis include sepsis, pulmonary embolism, and death.

Conclusions

- Management is controversial when balancing the risk of gastrointestinal hemorrhage versus the risk of thromboembolic events in an anticoagulated patient.
- The ASGE recommendations are based from studies involving anticoagulation with warfarin for both the risk of bleeding and thromboembolism during endoscopy.
- This case highlights that enoxaparin may pose an increased risk of gastrointestinal bleeding in the setting of endoscopy with mucosal biopsy.

References

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