EDITORIAL

Recommendations for endoscopy in the patient on chronic anticoagulation: apply with care!

With the escalating performance of colonoscopy in the United States over the past several years, there has been a consequent increase in the detection and the endoscopic removal of colonic polyps. Because colonic neoplasia is largely an age-related disease, polypectomies are primarily performed in older patients. These patients are more likely to be taking anticoagulant medication for concurrent medical illnesses and are also less likely to tolerate the hemodynamic challenge of a significant postpolypectomy bleed. Unfortunately, the evidence in the medical literature to characterize the risk of hemorrhagic complications after colonoscopic polypectomy is scanty. In this month's issue of *Gastrointestinal Endoscopy* Watabe et al[1] are to be commended for their contribution to this field of research. The investigators described the patient- and polyp-related features associated with postpolypectomy bleeding.

The dearth of robust clinical studies in the medical literature that address risks for postpolypectomy bleeding is multifactorial. There are primarily 2 important factors that militate performing effective research in this area. First, the infrequent occurrence of postpolypectomy bleeding makes these studies extremely challenging. Watabe et al[1] described an overall bleeding rate of only 0.6%. Therefore, to adequately power a study to make meaningful conclusions about predictors of hemorrhage, a very large patient population would be needed. Second, documentation of postpolypectomy bleeding requires meticulous follow-up of patients beyond the context of the endoscopy procedure. The nature of postpolypectomy bleeding is such that it often presents in a delayed fashion. In the article by Watabe et al,[1] patients with hypertension presented with bleeding complications a median of 6 days after the procedure. From a practical standpoint, this creates difficulties in reliably capturing all patients who develop the outcome of interest. Because of the need to recruit inordinately large numbers of patients, many studies that assess postpolypectomy bleeding will necessarily be retrospective in nature. This usually involves analysis of data from an endoscopic database. Even those endoscopic databases with the highest level of quality control rarely incorporate a mechanism to capture delayed procedural complications, which occur up to a week later.

An unfortunate consequence of the challenging nature of research into postpolypectomy bleeding is the lack of robust evidence upon which to base practice recommendations. The American Society of Gastrointestinal Endoscopy (ASGE) published guidelines for the approach to patients on anticoagulation who are undergoing endoscopic procedures.[2] These guidelines are largely based on the consensus of experts in the field rather than large-scale clinical trials.

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An algorithm to guide management of these patients, which is broadly based on the ASGE recommendations, is illustrated in Figure 1. In practice, these guidelines are exactly what they purport to be: a guide to managing these patients, one that should be flexibly implemented, at the discretion of the clinician.

It appears reasonable to apply an upper international normalized ratio (INR) limit of 1.5 for safely performing therapeutic polypectomy. No apparent therapeutic benefit is realized with anticoagulation levels below 1.5.[3] Some evidence also exists in the gastroenterology literature to support this recommendation: in 1 series, correction of the INR to at least 1.5 permitted endoscopic therapy, with no increased risk of hemorrhagic complications.[4] More recently, further research corroborated this upper safe INR limit; an abstract by Ruff et al[5] from the Mayo Clinic defined 1.5 as the upper INR limit before the rate of postpolypectomy bleeding complications rose significantly. The decision to reverse anticoagulation, thereby risking thromboembolic complications, must be carefully weighed against the increased risk of bleeding by maintaining anticoagulation. The platelet count should also be noted. Although not directly addressed in the ASGE guidelines, it would appear prudent to proceed with endoscopic therapy in the setting of a platelet count higher than 50,000. There is little evidence to

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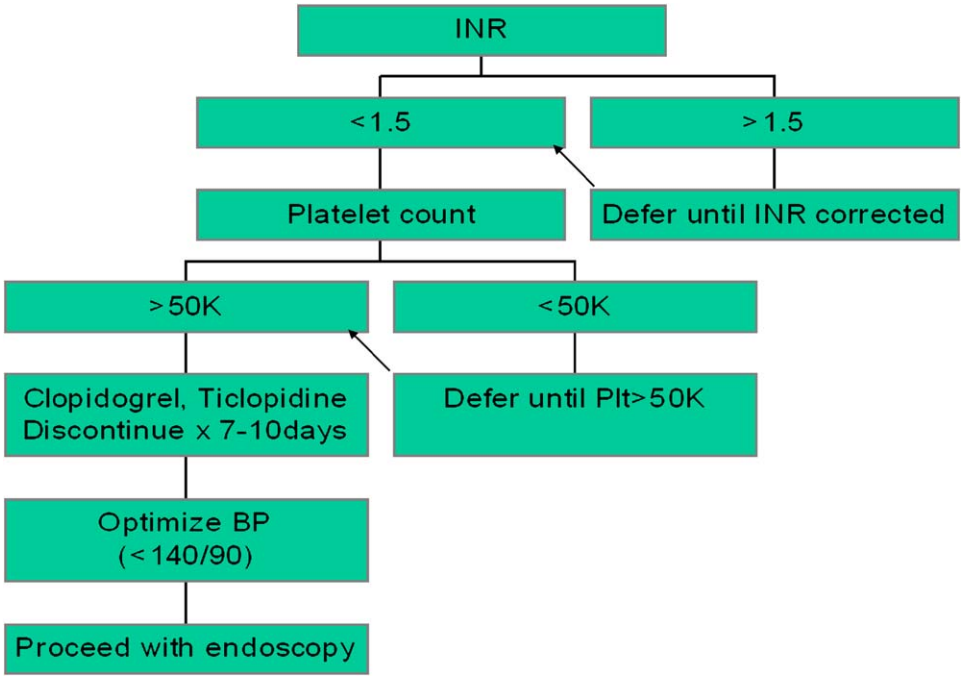

Figure 1. Proposed approach for patients on anticoagulation undergoing an endoscopic procedure.

support this within the gastroenterology literature; this platelet threshold has been largely extrapolated from studies in the hematology literature, which identify this as a safe threshold for performing invasive procedures.

The recent introduction of antiplatelet agents that function by blocking the platelet cell surface adenosine diphosphate receptor (ADP) further augments the risk of postpolypectomy bleeding. These agents include ticlopidine and clopidogrel, which are associated with fewer side effects. The ASGE guidelines recommend discontinuation of these agents 7 to 10 days before elective colonoscopy.[6] Although there are no published trials that assessed the effects of these newer antiplatelet agents in endoscopy, the guidelines are largely based on the pharmacokinetics of these agents. Platelet inhibition induced by either clopidogrel or ticlopidine takes several days to develop and reaches a maximum of 40% to 60% inhibition of ADP-induced aggregation after 3 to 5 days.[7] Again, it is worth stressing that this decision should be individualized; the risk of interrupting these agents should be weighed against the patient's risk of an adverse coronary event. It would appear that aspirin does not need to be discontinued before therapeutic endoscopy.[2] The final step in the proposed algorithm in Figure 1 acknowledges the findings of Watabe et al,[1] which describe the association of hypertension with postpolypectomy bleeding. Although this finding has yet to be duplicated by other studies, if nothing else, it would appear to be good clinical practice to optimize a patient's blood pressure before colonoscopic polypectomy.

As has been emphasized throughout, a flexible approach needs to be adopted when addressing endoscopy in the patient on anticoagulates. Importantly, many of the clinical variables that influence the risk of postpolypectomy bleeding take the form of continuous parameters, and their influence is likely proportional to the extent of their deviation from normal. Polyp size, INR level, platelet level, patient age, and blood pressure all manifest across a spectrum of possible values, each exerting a variable influence on the likelihood of bleeding. Even the adverse outcome of interest, postpolypectomy bleeding, can manifest through a spectrum of severity, ranging from mild to moderate to severe bleeding. To further compound this issue, the possible additive effect of some of these variables in combination have yet to be fully explored; concurrent use of aspirin likely compounds the effect of clopidogrel, while thrombocytopenia likely compounds the effect of, eg, elevated INR.

In summary, clinicians need to be mindful of the increased risk that chronic anticoagulation poses for postpolypectomy bleeding at colonoscopy. For this reason, the ASGE endorsed guidelines for clinical practice in this setting. However, these are meant purely to ''guide'' the physician, who always has the discretion to override these recommendations based on the patient's individual circumstances. Ultimately, the care of each patient is a judgment call that requires the clinician to carefully weigh the risks of a thromboembolic event from interrupting the patient's anticoagulation therapy, with the increased risk of postpolypectomy bleeding.

DISCLOSURE

The author does not have any conflict of interest in this work.

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