ABSTRACT

Clotting vs. Bleeding: The Importance of Pharmacologic Thromboprophylaxis in IBD

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INTRODUCTION

Inflammatory bowel disease (IBD) patients are at increased risk of developing venous thromboembolism (VTE), a complication associated with significant morbidity and mortality. Despite this, pharmacologic prophylaxis (with heparin products) is still under implemented owing to both a lack of awareness of the degree of thrombotic risk and concerns over adverse events (bleeding). The following case serves to illustrate the importance of initiating pharmacologic VTE prophylaxis in a patient with active bleeding in the setting of IBD.

CASE

An 81 year-old male with a known history of long-standing ulcerative colitis, previously well controlled on oral mesalamine presents with a 2-month history of intermittent, progressively increasing hematochezia occurring 7-8x/day associated with abdominal pain and generalized fatigue. On admission HgB 6.7 (baseline 8.0). He was transfused 1-unit RBCs with appropriate response. Mechanical DVT prophylaxis with SCDs was selected due to concerns of ongoing rectal bleeding. The patient underwent colonoscopy which was significant for pancolitis with spontaneous bleeding ulcerations and biopsy was consistent with severe ulcerative colitis. He was started on oral prednisone, azathioprine and rectal mesalamine with little improvement in frequency of bowl movements. He was transfused an additional 1-unit RBCs for HgB below 7.0. Therapy was escalated to IV methylprednisone with significant improvement of hematochezia on hospital day 4. On hospital Day 5, he began to endorse bilateral leg pain and difficulty ambulating. Examination revealed bilaterally +2 pitting lower extremity edema. Venous dopplers were performed which revealed acute occlusive distal DVT of the right peroneal veins and left posterior tibial veins. Therapeutic unfractionated heparin (UFH) infusion was initiated. No significant bleeding events occurred while on UFH. He was discharged from hospital with a planned

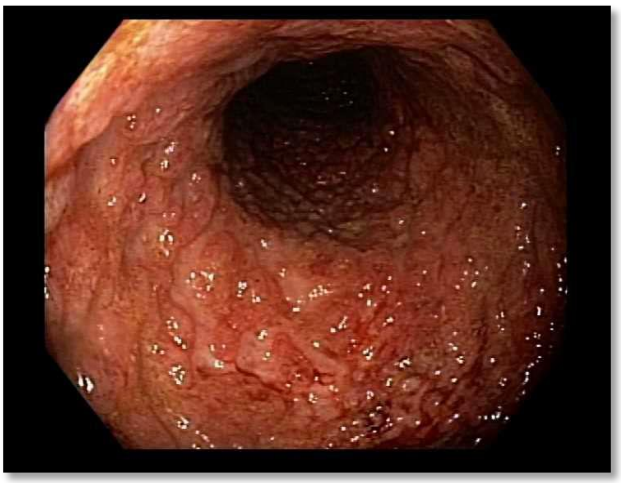

Fig 1. Descending Colon

3 month course of oral rivaroxaban for symptomatic, provoked, DVT.

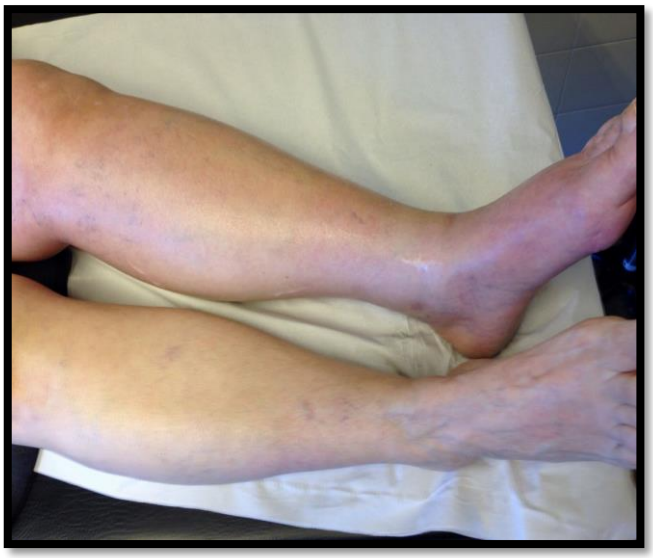

Fig 2. Representative image of bilateral DVT

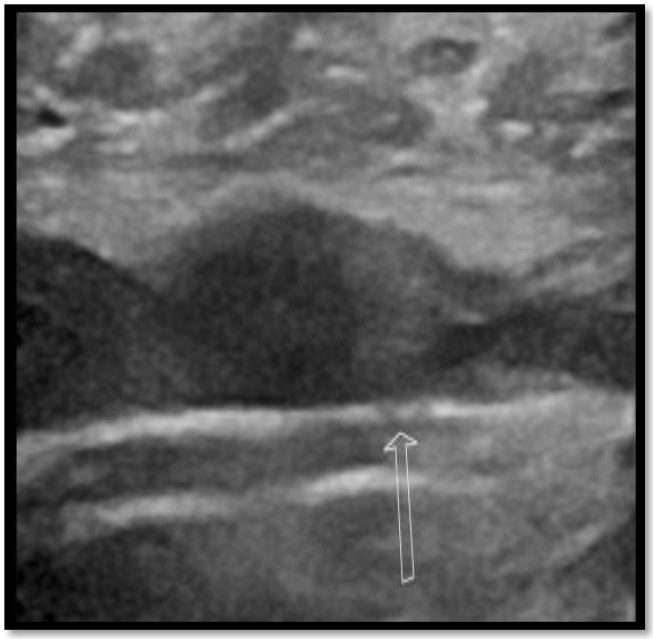

Fig 3. Acute Occlusive Thrombus in L PTV

DISCUSSION

Several population and hospital-based studies have shown that hospitalized IBD patients are at a to 2-3-fold increased risk for VTE compared with inpatients without IBD(5). VTE risk correlates with severity of disease such that patients at highest risk during active flare in with a hazard ratio 8.4 compared to controls(2). The basis from this increased risk is multifactorial and includes chronic inflammation resulting in a pro-coagulable state, use of systemic corticosteroids, and reduced mobility during a flare(3). Due to this high risk, many national guidelines strongly recommended prophylaxis with either subcutaneous low molecular weight heparin (LMWH) or UFH(1).This recommendation is mostly supported by the large volume of RTCs that have shown significant reductions in VTE rates with pharmacologic prophylaxis in acutely ill patients and few retrospective studies that shows a significant reduction in post-discharge VTE in hospitalized IBD patients treated with pharmacologic prophylaxis(6).

Despite these recommendations use of prophylactic anticoagulation remains relatively low due in part by provider concerns of adverse events (bleeding). However, meta-analysis data has shown that patients who received prophylactic anticoagulation did not result in significantly higher rates of bleeding compared to those that did not (9.1 vs 4.2 per 100 person-years;

	Events (n)	Person-years of follow-up	Risk per 1000 person-years (unadjusted)	Hazard ratio* (95% CI)	p value
Hospitalised periods					
Overall inflammatory bowel disease	48	1907·5	25·2	2·1 (1·4–3·2)	0·0003
Flare	12	320·3	37·5	3·2 (1·7–6·3)	0·0006
Chronic activity	13	443·0	29·3	2·8 (1·5–5·2)	0·001
Remission	23	1102·2	20·9	1·7 (1·1–2·9)	0·03
Control	49	3532·2	13·9	1·0	..

Scientific society (reference)	Recommendations	Type of population at risk
European Crohn's and Colitis Organisation (ECCO)[29]	Mechanical thromboprophylaxis and/or heparin administration (UH or LMWH)	UC
European Crohn's and Colitis Organisation (ECCO)[28]	Consider VTE prophylaxis (UH, LMWH, or fondaparinux) in all hospitalised patients	CD
British Society of Gastroenterology (BSG)[31]	Pharmacological VTE prophylaxis for hospitalised patients with severe UC	UC
American College of Gastroenterology (ACG)[30]	VTE prophylaxis with heparin for hospitalised patients with severe UC	UC
American College of Chest Physicians (ACCP)[27]	Mechanical thromboprophylaxis with GCS or IPC; anticoagulant thromboprophylaxis with LMWH, UH or fondaparinux when bleeding risk decreases	Acutely ill hospitalised medical patients at increased risk of thrombosis who are bleeding or at high risk of bleeding

P = .55)(6). Additionally only 6.6% of patients who presented with rectal bleeding continued to have minor bleeding events on prophylactic anticoagulation(4). Given these findings, the Canadian Association of Gastroenterology (CAG) recommends prophylactic anticoagulation in the setting of non-severe (no hemodynamic compromise) GI bleeding.

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