



Original Article

Spontaneous Gastrointestinal Hematomas : Complication of Oral Anticoagulation Therapy

Vidhyulatha Sanata*, BK Uma**, Sana Firdouse***

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Care Hospitals ,Hyderabad. Telangana, India

Abstract

Oral anticoagulation therapy are used in patients with valvular lesions or cardiac rhythm abnormalities to prevent thrombotic events. Vitamin K antagonist-Warfarin has been the only oral anticoagulant used over the years undeterred by the limitations. Warfarin requires regular monitoring of coagulation profile by Prothrombin time with International normalized ratio(INR).Due to its narrow therapeutic margin and high predisposition to complications ,most common is bleeding (1-3%) other less commonly encountered are osteoporosis, necrosis, purple foot and calcifications . The most common presentation being the gastrointestinal bleeding, it can be either intraluminal bleed or intramural bleed. Most of them are benign, resolve on conservative management with regular monitoring the size of bleed radiologically. Gastrointestinal bleed is the first differential diagnosis of choice clinically in cardiac patients with history of long term Oral anticoagulant use. Signs and symptoms of acute abdomen with Gastrointestinal obstruction are the pointers towards bleed in such patients. The dilemma of diagnosing acute abdomen due to other causes can always be cleared with basic radiological investigation. The most reliable investigation of choice in cases with Gastrointestinal hematomas is Contrast Enhanced Computed tomography of abdomen, it is seen as either focal high dense circumferential wall thickening or intraluminal bleed.

The other possible causes of gastrointestinal hematomas are:

- Trauma
- Platelet disorders
- Coagulation defects :
 - Haemophilia
 - Von willibrand's disease
 - Dysfibrinogenemia
- Disseminated intravascular coagulopathy
- Vasculitis
- Drug induced

The aim of our article is to discuss the imaging findings by Computed tomography study and highlight the rare occurrence of acute abdominal pain due to spontaneous gastrointestinal hematomas resulting from the use of oral anticoagulants to familiarize the physician with condition and its different presentation to prevent unrequired surgeries in patients. (Indian J Cardiol 2022;25 (3-4):12-20)

Address for Correspondence :

Dr Vidhyulatha Sanata, Care Hospitals, Hyderabad Telangana, India E mail - drvidhyulatha.s@gmail.com

Introduction

Spontaneous gastrointestinal hematomas are rare complications of anticoagulant therapy¹. Symptoms depend upon the location of the bleeding and patients often present with acute onset dysphagia, colicky abdominal pain, vomiting and melena. It may involve any site of the gastrointestinal tract- esophagus, small bowel or large bowel^{2,3,4}. Typical findings on abdominal sonography and multidetector row computed tomography (MDCT)⁵ with history of anticoagulant use and deranged coagulation parameters suggest the diagnosis. Patients are often treated conservatively. Prompt and accurate diagnosis of this condition is essential to avoid an un-indicated surgery.

Materials

We retrospectively reviewed the records and radiological studies of patients who presented with acute abdominal pain due to spontaneous gastrointestinal hematomas resulting from the use of oral anticoagulants.

was referred to our hospital for further management. After initial stabilization with symptomatic management, CECT chest (Fig:2a,2b) and

Case 1: Oesophageal Hematoma

S R 58y/M, a follow up case of coronary artery disease on treatment with aspirin presented with acute onset chest pain and dysphagia. He went to a local hospital where ECG and serum Troponin-T levels were done and acute coronary syndrome was ruled out. He was referred to another hospital where an upper GI endoscopy (Fig:1) was done and was reported as a vascular esophageal tumor and subsequently

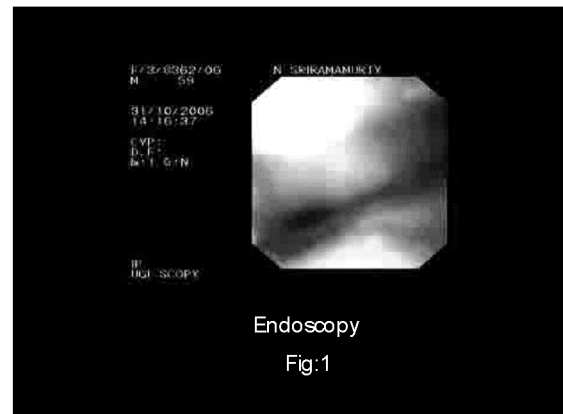


Fig. 1 : Non-enhancing submucosal lesion extending from level of arch vessel to GE junction- ?Haematoma in the oesophagus with probable perieserosal inflammation in mediastinal pleura

upper G.I endoscopy were suggestive of esophageal hematoma.

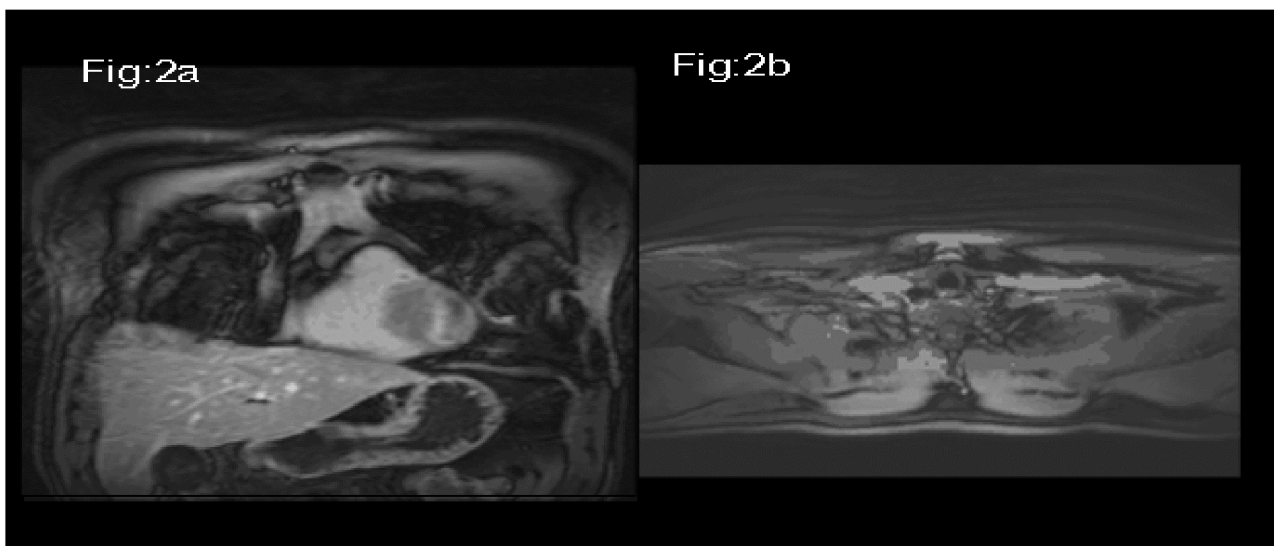


Fig. 2 A, 2 B

Patient was managed conservatively with regular monitoring of progression hematoma. Follow up CT Chest Fig: 3a, 3b) and endoscopy(Fig:4) shows resolution of the hematoma.

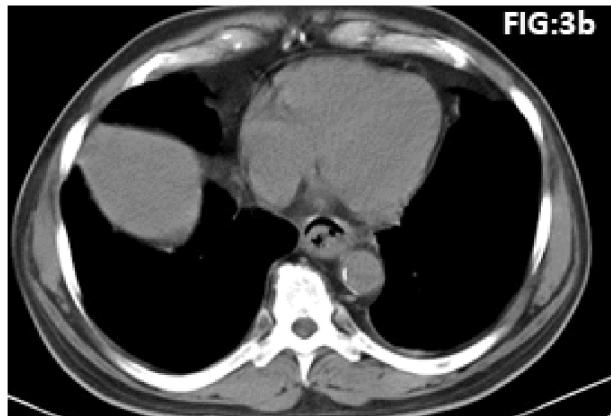


Fig. 3a, 3b : follow up CT Follow up CT performed a week later showing partial resolution of the hematoma



Fig. 4 : Follow up endoscopy

Case 2: Duodenal Hematoma

53 year old female patient a follow up case of Chronic Rheumatic Heart Disease with mitral stenosis and atrial fibrillation. She had past history of right parietal hemorrhagic infarct in 5 yrs back, recurrent UTI with pyelonephritis and also Rheumatoid arthritis. She has been on treatment with oral anticoagulants.

She presented with history of loss of appetite for 1 month associated with nausea. She had vomiting with black colored vomitus for 2 days with diffuse abdominal pain. On examination she was conscious, was in atrial fibrillation with a systolic blood pressure of 80mm Hg and raised jugular venous pressure. Her abdomen was soft with peri umbilical tenderness. Laboratory reports revealed a prothrombin time >75seconds with an INR value of > 6.5.

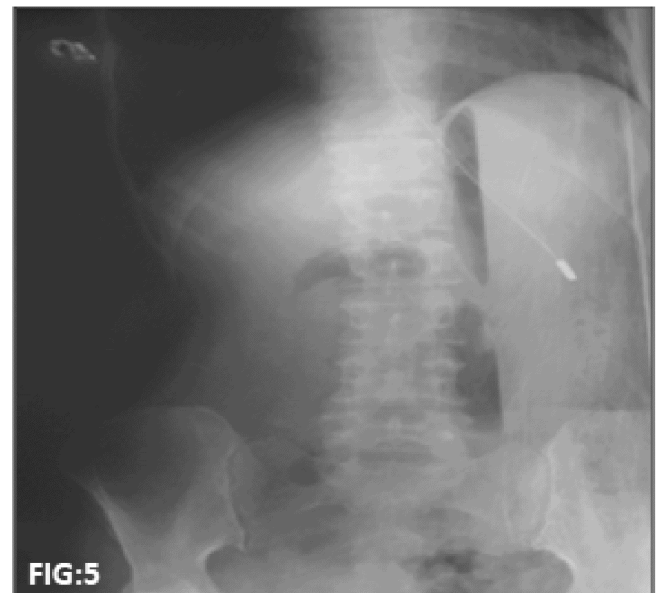


Fig. 5 : Abdominal radiograph in left lateral decubitus position showing dilated stomach with large air-fluid level and narrowed second part of duodenum

Her Abdominal radiograph in left lateral decubitus position showing dilated stomach with large air-fluid level and narrowed second part of duodenum (Fig :5). On sonography focal bowel wall thickening (Fig: 6a, 6b) was noted and on CT circumferential bowel wall thickening of II and III parts of duodenum.(Fig :7a, -7f).

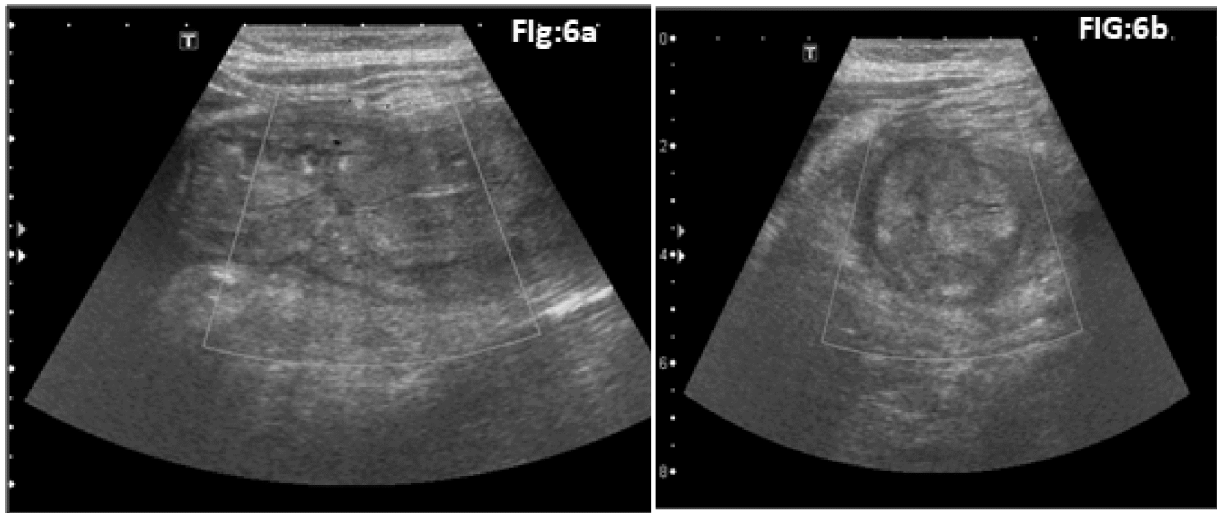


Fig. 6 A, B : Sonography: focal bowel wall thickening

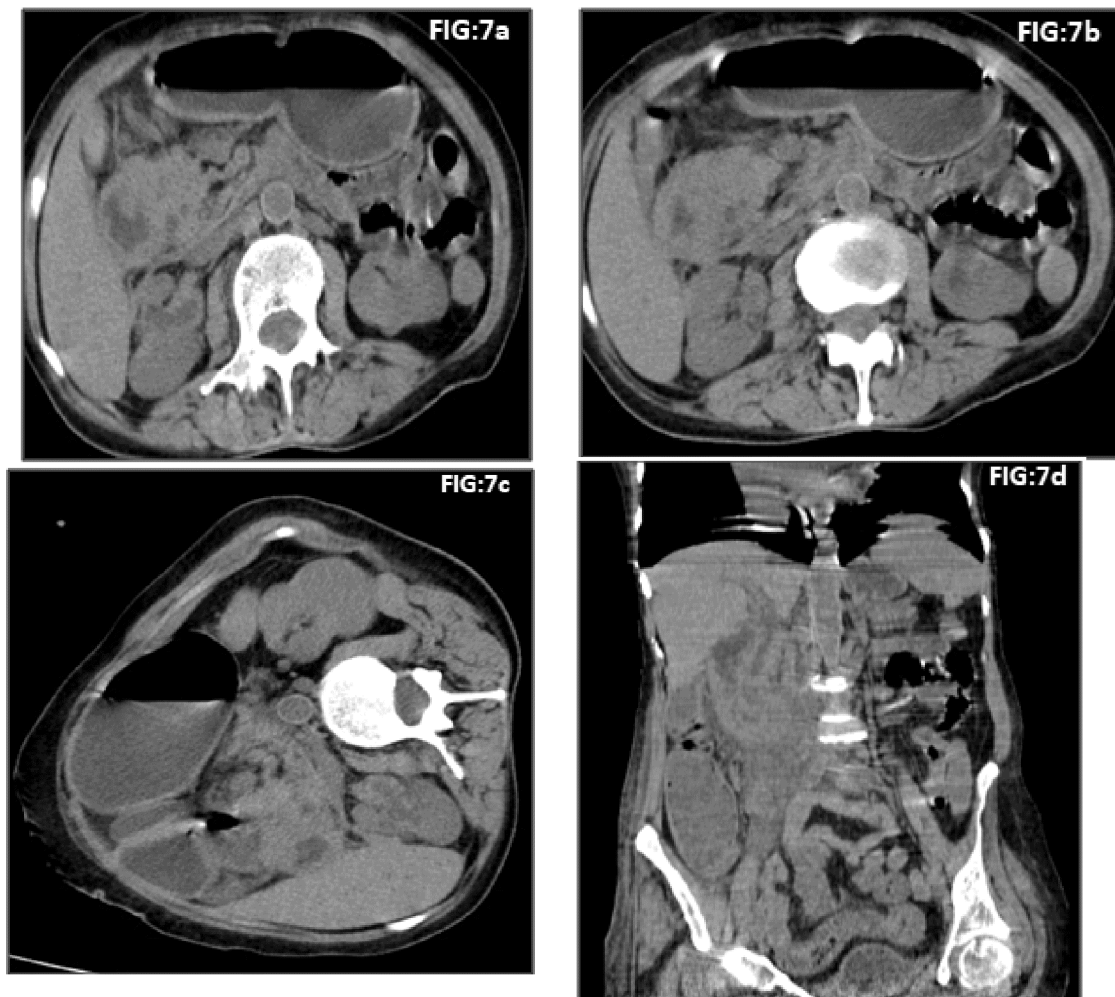


Fig. 7



Fig. 7 A-E : CT circumferential bowel wall thickening of II and III parts of duodenum

Case 3: Jejunal Hematoma

73year old male with history of Mitral Valve Replacement and on regular treatment with anticoagulants and aspirin. He presented with complaints of abdominal pain and vomiting. His PT was 56 seconds with an INR value of 5.6. Abdominal

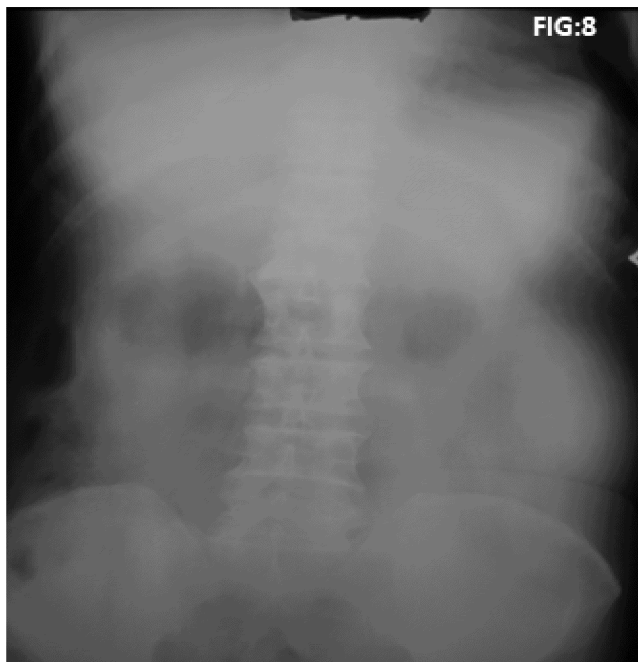


Fig. 8 : Abdominal radiograph showing non specific dilatation of small bowel loops



Fig. 9a, 9b, 9c: Ct abdomen showing long segment circumferential jejunal thickening and hemoperitoneum on CECT.

X-ray (Fig:8) and C.T abdomen(Fig:9a,9b, 9c) were done and diagnosed with jejuna hematoma.On follow up pain resolved spontaneously and patient was discharged in stable condition.

Case 4: Small Bowel Hematoma

A 60year old female a follow up case of chronic rheumatic mitral valve disease with atrial fibrillation on warfarin therapy. She presented with complaints of right sided abdominal pain and malena. She had similar episode one week earlier and it resolved with conservative treatment. At the time of admission her PT was >120 seconds and INR was >9. Her symptoms resolved over next few days with conservative management as her coagulation parameters returned to normal. X-Ray abdomen done.No free air under of dome diaphragm. Few airfluid levels in midabdomen.(Fig:10).



Fig. 10

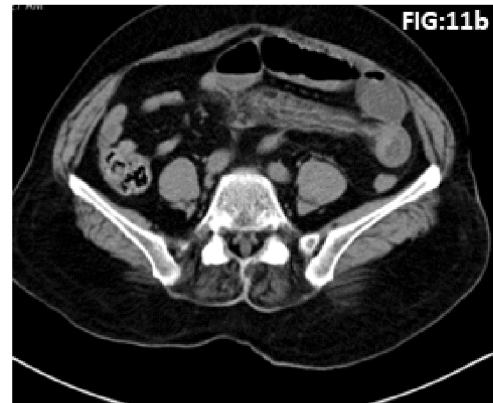


Fig. 11a,11b : Circumferential bowel wall thickening of proximal ileal loops with dilated proximal small bowel loops noted

Fig. 11c, 11d : Maximum intensity projection images showing normal superior mesenteric artery.

On CECT circumferential bowel wall thickening of proximal ileal loops with dilated proximal small bowel loops noted. Maximum intensity projection images showing normal superior mesenteric artery (Fig: 11a,11b,11c,11d).

Case 5: Large Bowel Hematoma

10 year old male child, a follow up case of

Fanconi's anemia presented with abdominal distension, pain and melena. Bed side Ultrasonography revealed long segment bowel wall thickening involving distal descending and sigmoid colon

On CT circumferential bowel wall thickening of descending and sigmoid colon noted.(Fig:12a,12b, 12c, 13a, 13b, 13c).

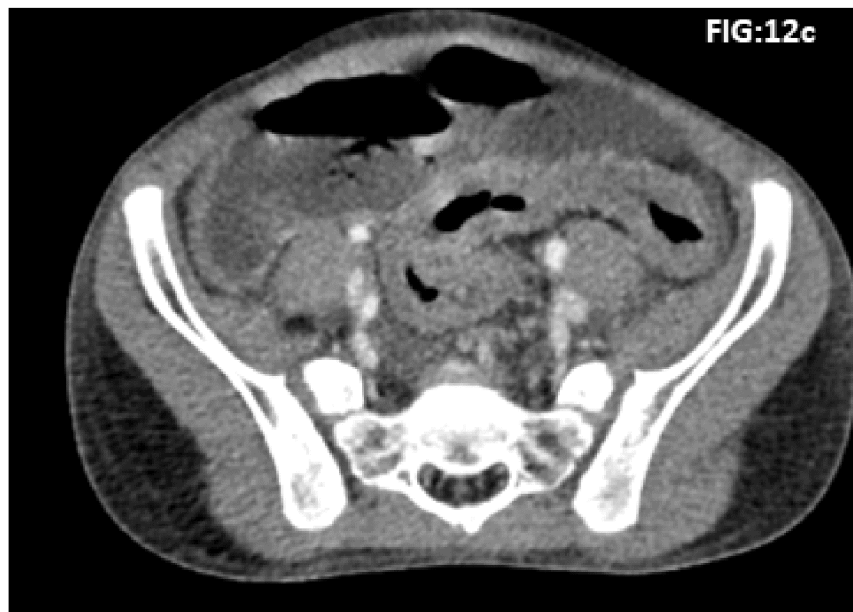


Fig. 12a,12b,12c : CT showing circumferential bowel wall thickening of descending and sigmoid colon

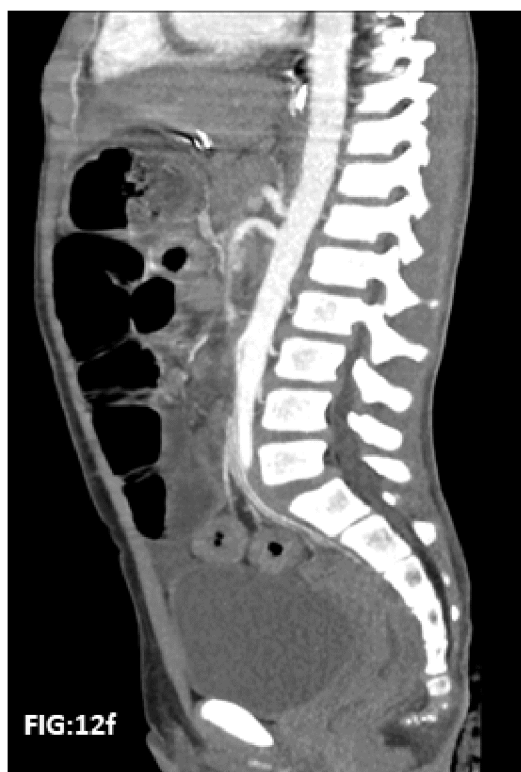
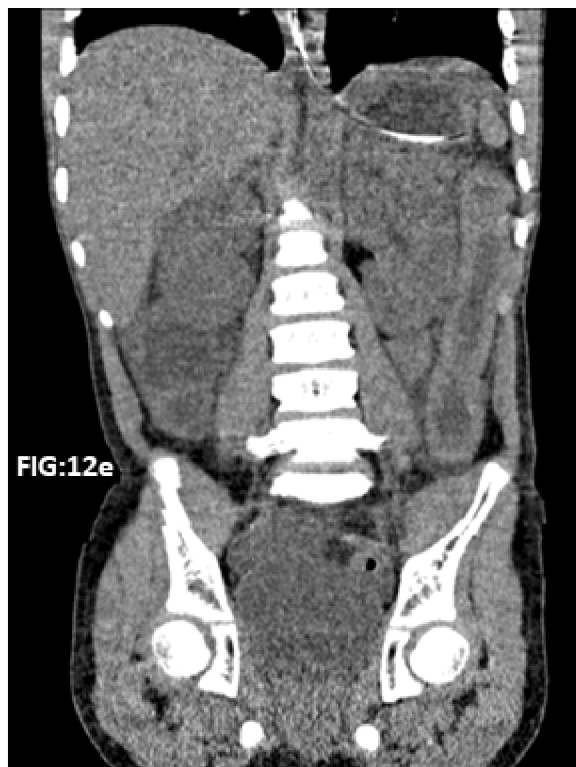


Fig. 13 :



Discussion

Spontaneous gastrointestinal hematoma is a rare abdominal emergency condition resulting from submucosal or subserosal hemorrhage. Spontaneous intramural hemorrhage (IMH) results from altered hemostasis leading to hemorrhage from the small vessels within the bowel wall. Commonest cause is anticoagulant overdose, which deranges the normal coagulation. There is increase in the incidence and detection of anticoagulant induced GI hematomas due to the increasing use of anticoagulants usage in clinical practice and increased use of CT in the diagnosis of abdominal conditions respectively.

Since, Warfarin is the most commonly used anticoagulant for long term anticoagulation⁶, it accounts for majority of the cases of anticoagulant induced IMH. Other causes of spontaneous IMH include hemophilia, leukemia, pancreatitis, idiopathic thrombocytopenic purpura and vasculitis like polyarteritis nodosa and Henoch-Schonlein purpura.

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