

## Spontaneous Small Bowel Intramural Hematoma- A Case Report with Review

Valakkada J\*

Department of Imaging Sciences and Interventional Radiology, Sree Chitra Institute of Medical Sciences, India

### \*Corresponding author:

Jineesh Valakkada,  
Department of Imaging Sciences and Interventional  
Radiology, Sree Chitra Institute of Medical Sciences,  
India, E-mail: jineesh174@gmail.com

Received: 04 Mar 2022

Accepted: 22 Apr 2022

Published: 28 Apr 2022

J Short Name: JJGH

### Copyright:

©2022 Valakkada J, This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially.

### Citation:

Valakkada J, Spontaneous Small Bowel Intramural Hematoma- A Case Report with Review. J Gastro Hepato. V8(14): 1-3

### Keywords:

Spontaneous Small Bowel Intramural Hematomas;  
Radiograph

### 1. Abstract

Spontaneous Small Bowel Intramural Hematomas (SSBIMH) is a rare complication seen in patients on prolonged anticoagulants. They present as acute abdominal pain and can masquerade acute enterocolitis and bowel ischemia. Cross sectional imaging plays an important role in diagnosing since they require conservative management only. We present a case of SSBIMH in patient with mitral and aortic prosthesis on warfarin

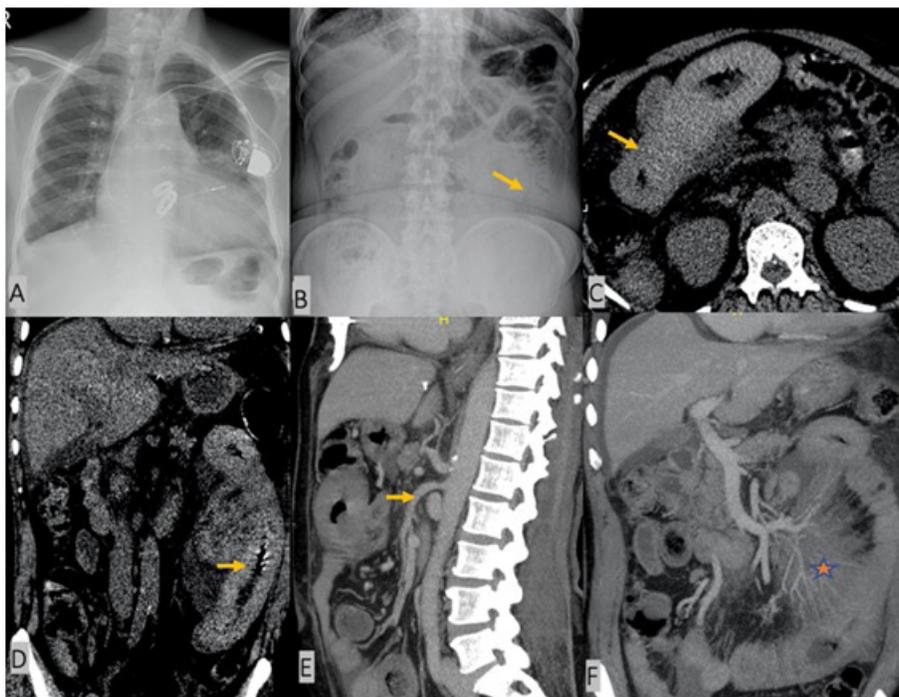
### 2. Introduction

Small Bowel Intramural Hematoma (SBIMH) is a rare presentation in patients on anticoagulants occurring 1 in 2500 of patients receiving them. Though self-limiting in most of the situation, imaging plays an important role in diagnosing the complications associated with them.

### 3. Case

34-yr. old male who had valvular rheumatic heart disease present-

ed with acute severe abdominal pain, non-projectile vomiting and melena. On examination his vitals were stable. However, there was reduced hemoglobin 9.5 and elevated INR (3.2). He had mitral valve and aortic valve replacement done 2-years prior and was on oral warfarin (4mg daily) with INR maintained around 2.5 till the previous visit 3 months back. Abdominal radiograph revealed small bowel thickening in a stack of coin (figure 1B) appearance suggestive of bowel wall mural thickening. Multiphase CT examination which showed hyperdense jejunal loop (35HU) in non-contrast phase with diffuse submucosal thickening (figure 1C). There was minimal mesenteric stranding with minimal ascites. However, no thrombus was seen in the mesenteric vessels. In view of hyperdense thickened jejunal loops and absence of mesenteric thrombosis, a diagnosis of SBIMH was made. Warfarin was discontinued and Vitamin K injection (10mg) was given for 2 days. The pain resolved by 2 days with melena subsiding in 3 days. Warfarin was restarted after 7 days with INR maintained around 2.5.



**Figure 1:** Plain radiograph of chest

(A) showing mitral valve and aortic valve prosthesis with pacemaker in situ. On abdominal radiograph

(B) there is localized jejunal dilatation with stack of coin appearance (arrow) of mid jejunum. Plain CT images

(C and D) showed hyperdense (arrow) small bowel loops suggestive of intramural hematoma with normal superior mesenteric artery and vein (arrows in E).

Mild mesenteric hematoma

(Asterisk in F) and ascites was noted.

#### 4. Discussion

Spontaneous SBIMH is an uncommon entity with annual incidence of around 0.003% with around 150 cases reported in literature with incidence increasing due to use of cross sectional imaging [1]. They are seen in patients on anticoagulants with incidence of 1/2500 [2]. The common site of involvement is jejunum (45-50%) followed by duodenum (30%) and ileum (15-20%) [3]. Colon is very rarely involved with rectum and sigmoid colon as the common site [4].

Intramural hematomas of small bowel can be due trauma or spontaneous. Traumatic causes lead to hematoma of duodenum due to its relatively fixed position. Compared to traumatic etiology, prolonged anticoagulation therapy is the common cause of spontaneous small bowel intramural hematoma. It occurs commonly in jejunum and in patients on oral anticoagulant for prosthetic cardiac valves, atrial fibrillation and venous thrombosis which warrants a higher INR value (around 2.5) [1-4]. They can also be seen in patient on prolonged LMWH and newer anticoagulants. Other secondary causes of IMH include leukemia, idiopathic thrombocytopenic purpura, hemophilia, Von Willebrand disease and pancreatitis

The primary pathology is bleeding in the submucosa which results in abdominal pain (97.5% of cases) [3]. The bleed is usually self-limiting if the underlying coagulopathy is corrected. In about 40% of cases he bleed can dissect into mucosa and lumen internally presenting as gastro intestinal bleed [7] or can extend to serosa resulting in mesenteric hematoma. Rarely it can expand without dissection resulting

in luminal obstruction and as lead point for intussusception [6].

Imaging plays a vital role in diagnosis. Abdominal radiograph can show local ileus with stack of coin appearance of small bowel loops. Ultrasound can detect the uniformly thickened small bowel with absent mural vascularity. Multiphase CT is the diagnostic modality of choice with plain image showing hyperdense bowel wall (30-40HU) in early phase with the attenuation lowering to fluid consistency by 10-14 days. The venous phase shows submucosal hypo enhancement with coiled spring like appearance. CT is vital in detecting the complications which include intestinal obstruction, large mesenteric hematoma or lead point for intussusception and also in ruling out other cause having similar presentation like mesenteric vascular thrombosis.

The management is conservative with temporary stoppage of anticoagulation and correction of INR with Vitamin K or FFP [8]. Anticoagulation can be restarted after resolution of hematoma in repeat CT or ultrasound. In cases complicated by intussusception and bowel obstruction which is not responding to conservative means, surgical exploration and resection of the involved bowel segment is warranted [1]. Late complication includes bowel stenosis and recurrence hematoma which are rare.

#### 5. Conclusion

SBIMH though uncommon, the incidence is increasing with the use of newer oral anticoagulants and increased use of cross-sectional imaging. Proper diagnosis of this entity important in further man-

agement since it requires temporary discontinuation of anticoagulant. Imaging plays a vital role in confirming the diagnosis, detecting complications requiring surgery and in ruling out alternate causes presenting with similar clinical presentation.

## Reference

1. Acar N, et al. A Rare Complication of Anticoagulant Therapy: Intramural Hematoma of the Small Bowel. *Arch. Iran. Med.* 2019; 22: 653-8.
2. Abbas MA, Collins JM, Olden KW. Spontaneous Intramural Small-Bowel Hematoma: Imaging Findings and Outcome. *Am. J. Roentgenol.* 2002; 179: 1389-94.
3. Sorbello MP, Utiyama EM, Parreira JG, Birolini D, Rasslan S. Spontaneous intramural small bowel hematoma induced by anticoagulant therapy: review and case report. *Clinics.* 2007; 62: 785-90.
4. Wang J, Sun X, Shi H, Cao D. Intramural hematoma of colon. *Medicine (Baltimore)* 2020; 99.
5. Chaiteerakij R, Treeprasertsuk S, Mahachai V, Kullavanijaya P. Anticoagulant-induced intramural intestinal hematoma: report of three cases and literature review. *J. Med. Assoc. Thail. Chotmaihet Thangphaet.* 2008; 91: 1285-90.
6. Choi BH, Koeckert M, Tomita S. Intramural Bowel Hematoma Presenting as Small Bowel Obstruction in a Patient on Low-Molecular-Weight Heparin. *Case Rep. Pediatr.* 2018.
7. Shikata D, et al. Report of a case with a spontaneous mesenteric hematoma that ruptured into the small intestine. *Int. J. Surg. Case Rep.* 2016; 24: 124-7.
8. Abdel Samie A, Theilmann, L. Risk factors and management of anticoagulant-induced intramural hematoma of the gastrointestinal tract. *Eur. J. Trauma Emerg. Surg.* 2013; 39: 191-4.