Endoscopic diagnosis and conservative management of an intramural sigmoid haematoma complicating anticoagulant therapy

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To the Editor

We describe the case of a 63-year old man with a sigmoid intramural haematoma caused by anticoagulant therapy with acenocoumarol and we review the related literature. He presented to the emergency department complaining of haematochezia and colicky lower abdominal pain. He was on regular acenocoumarol 2 mg daily for a previous acute myocardial infarction two years earlier. He also took 500 mg of aspirin the day before admission. He was apyrexial, the blood pressure was 95/60 mmHg, and the pulse rate 86/min irregular. There was tenderness in the left iliac fossa and the bowel sounds were increased. The digital rectal examination showed blood stained liquid only. After a failed attempt to put an intravenous canula, a large haematoma developed in his right arm. The INR was 6.3. The full blood count showed leucocytosis of 14100/µl (86% neutrophils) and haemoglobin of 14.5 g/dl. Abdominal x-rays after water soluble contrast enema demonstrated partial obstruction of the sigmoid colon. The abdominal CT scan with oral administration of contrast medium showed narrowing of the sigmoid lumen and thickening of the descending and sigmoid colon wall (Fig. 1). The flexible sigmoidoscopy demonstrated an intramural sigmoid colon haematoma partially obstructing the lumen. The acenocoumarol was stopped and the patient was treated with vitamin K, fresh frozen plasma, and intravenous fluids. The next day the INR was 1.47. A new flexible sigmoidoscopy performed four days later showed an oedematous sigmoid colon. However the haematoma had considerably shrunk and the colonoscope could easily reach the splenic flexure. The patient was discharged two days later as the abdominal pain settled and he had a normal bowel movement.

Intramural haematomas of the gastrointestinal tract usually develop after blunt trauma or anticoagulant therapy (1). Although anticoagulant therapy can cause intramural haematomas anywhere in the gastrointestinal tract, the most common affected parts are the jejunum and the ileum (1,2). Anticoagualation-induced intramural haematomas of the colon are very rare. By making a literature search using PubMed, we were able to identify eleven cases of large bowel haematoma caused by anticoagulant therapy (3-13). We did not include cases of ileocaecal involvement. Five of these cases were published in English, three in French, one in German, one in Spanish, and one in Italian. The main characteristics of these cases are summarized in table 1.

Fig. 1. — Abdominal CT scan demonstrating descending colon haematoma causing severe narrowing of the intestinal lumen (arrow).

Intramural haematomas of the large bowel present with abdominal pain, obstruction and haematochezia. The symptoms develop progressively. Abdominal pain is always present and large bowel obstruction is usually partial. When the haematoma is located in the rectum, ecchymosis or haematoma of the perianal area may be present (5,7). Usually the INR is prolonged far beyond the therapeutic range (5,9,10,12), however, anticoagulants can cause an intramural haematoma with the INR slightly prolonged or even normal (4,7,11). Imaging modalities that can assist the diagnosis include CT scan, ultrasound scan and contrast medium enema. Diagnostic colonoscopy is the most important examination since it readily illustrates the haematoma (8). Examination above the level of the lesion is often impossible due to the obstruction.

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Table 1. — **Characteristics of twelve reported cases (including the present one) of anticoagulation induced large bowel haematoma**

Author	Year	Location	Sex	Age	Symptoms	Medication	PT / INR	Management
Trompetas *et al.* (Present case)	2007	Descending, Sigmoid	Male	63	Pain, haematochezia, obstruction	Acenocoumarol	N/A / 6.3	Conservative
Lee *et al.* (3)	2005	Entire colon	Male	67	Haematochezia	Heparin	N/A	Conservative
Babu *et al.* (4)	2001	Rectum	Male	71	Pain	Warfarin	N/A / 1	Surgical
Casado Gonzalez *et al.* (5)	2000	Rectosigmoid	Male	44	Pain	Phenprocoumon	N/A / 11	Conservative
Catalano *et al.* (6)	1997	Descending	N/A	N/A	Pain, obstruction	Anticoagulation	N/A	Surgical
Terkonda *et al.* (7)	1992	Rectum	Male	17	Pain, obstruction, haematochezia	Warfarin	18.4 / N/A	Surgical
Sevenet *et al.* (8)	1992	Sigmoid	Male	77	Pain, Obstruction	Acenocoumarol	< 10% / N/A	Conservative
Jacques *et al.* (9)	1986	Caecum	Male	50	Pain	Acenocoumarol	< 12.5% / N/A	Surgical
Brugger *et al.* (10)	1986	Descending	Male	54	Pain, obstruction, nausea	Anticoagulation	8% / N/A	Conservative
Patel *et al.* (11)	1973	Hepatic flexure	Female	70	Pain, obstruction	Warfarin	20 / N/A	Surgical
Huguier *et al.* (12)	1972	Ascending, descending	Male	72	Pain, diarrhoea	Antivitamines K	incoagulable	Conservative
Gabriele *et al.* (13)	1964	Rectosigmoid	Female	74	Haematochezia, pain, obstruction	Heparin	N/A	Conservative

PT : prothrombin time in seconds or as a percentage
INR : international normalized ratio
N/A : not available.

The differential diagnosis includes lesions that cause colonic obstruction, pain and rectal bleeding such as colonic cancer, acute diverticulitis, inflammatory bowel disease, and benign tumours of the colon, as well as acute appendicitis when the lesion is located in the caecum (9). The diagnosis should be based on the history of anticoagulation treatment, the prolonged INR, the CT findings and the colonoscopy. The colonoscopy demonstrates the nature of the lesion as well as the distal end of the haematoma, whereas the proximal limit of the lesion can be defined by means of CT scan.

The management of large bowel haematomas induced by anticoagulants can be either conservative (3,5,8, 10,12,13) or surgical (4,6,7,9,11). Conservative management includes reversal of anticoagulation effect, supportive measures, and observation until the haematoma is resolved. Normalization of the coagulation status is usually achieved by withdrawing the anticoagulants and by administering small doses of vitamin K and fresh frozen plasma. Caution should be taken not to reach a hypercoagulative status and precipitate thrombosis in patients with significant cardiovascular conditions. It is interesting that although all authors suggest that colonic haematomas caused by anticoagulants must be treated conservatively, in five out of eleven previously reported cases surgical treatment was used (4,6,7,9,11). The reasons for surgical intervention were rupture of the haematoma (7), abscess formation (9), uncontrolled pain (4), and failure to establish diagnosis (6,11). Surgical management in these cases included segmental colectomy (11), defunctioning colostomy (7), and evacuation of the haematoma (4,8). In two cases recto-sigmoid fistula developed (4,7) and one of them was treated with fistulectomy at the time of reversing the colostomy (7).

In conclusion intramural colonic haematomas caused by anticoagulants are rare. The diagnosis is based on history, and confirmed by endoscopy and CT scan. The management is conservative unless the haematoma is complicated by rupture, abscess formation or prolonged obstruction. Explorative laparotomy may also be necessary if the nature of the obstructing lesion is not clear, although a few days delay could be beneficial since correction of the coagulation status can resolve the lesion and eliminate the need for surgery.

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