

# Spontaneous intramural hematoma of rectum in a patient on anticoagulant therapy

## Case report and review of literature



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### Spontaneous intramural hematoma of rectum in a patient on anticoagulant therapy. Case report and review of literature

**AIM:** *Gastrointestinal spontaneous hematomas (GSHs) represent 5-10% of patients with acute abdomen. Conservative treatment is the most common approach but the bowel perforation can be a fatal complication. In patients with spontaneous rectal wall hematoma, high comorbidity and abdominal signs of acute abdomen but without radiological signs of intestinal perforation, an early exploratory laparotomy should be considered.*

**CASE PRESENTATION:** *A 70-year-old man with severe dilatative cardiomyopathy and chronic obstructive pulmonary disease (COPD) on anticoagulant therapy was admitted with acute abdominal pain and anemia. An abdominal CT scan showed a perihepatic, perisplenic and parietocolic effusion associated with a retro-rectal hematoma measuring 6×6×14 cm without signs of active bleeding. Because of sudden onset of signs of peritonitis, a laparotomy was performed which showed an ischemic perforation of the sigmoid-rectal junction. We performed a recto-sigmoid resection (Hartmann operation) but the patient died twelve days later for septic shock.*

**DISCUSSION:** *In patients with GSH the main problem is represented by the choice between conservative and surgical treatment. In case of complications, such as active and persistent intra-abdominal bleeding, wall ischemia with or without bowel perforation and peritonitis, surgical treatment is mandatory. The absence of radiological signs of perforation can cause a delay of surgical treatment with unfavourable outcome especially in patient with rectal hematoma and severe comorbidity.*

**CONCLUSIONS:** *GSHs of rectum are uncommon but a strict clinical monitoring is crucial because the extraperitoneal position make it possible a late clinical or radiological identification of perforation and a late laparotomy.*

**KEY WORDS:** Acute abdomen, Anticoagulant therapy, Spontaneous intramural hematoma

### Introduction

Gastrointestinal spontaneous hematomas (GSHs) represent 5-10% of patients with acute abdomen<sup>1-3</sup>. GSHs

most commonly occur in the small bowel during chronic anticoagulant therapy<sup>4-7</sup>. Conservative treatment is the most common approach, and it accounts for a 90% success rate<sup>8,9</sup>. Perforation is a fatal complication of GSH, rarely described in literature<sup>2,10</sup>. In presence of acute abdomen not associated to radiological signs of intestinal perforation, the choice between conservative treatment and surgical exploration could be hard. These difficulties are particularly evident when the hematoma involves the rectal wall. These patients represent only the 1-5% of the GSHs<sup>11-13</sup> and it has been occasionally

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reported rectal spontaneous hematomas complicated by perforation<sup>10</sup>. We report the case of a patient with severe heart failure on anticoagulant therapy with warfarin, who was admitted to the hospital with acute abdominal pain and acute anemia.

## Case Report

A 70-year-old man with severe dilatative cardiomyopathy and chronic obstructive pulmonary disease (COPD), under anticoagulation therapy after mechanical mitral valve replacement performed in 1996, was admitted to an Emergency Unit of another hospital, for an acute non-traumatic abdominal pain, localized in the suprapubic area and radiating to the lumbosacral area. Blood pressure (BP) was 100/70 mm Hg and pulse rate was 90 bpm. Blood tests revealed Hb 7.5 g/dl, INR 4, WBC 16.000/mm<sup>3</sup>. An abdominal CT scan showed a perihepatic effusion measuring 2x18x20 cm and other smaller effusions around the spleen, into the Morrison space and in the parieto-colic gutters associated to the presence of an hematoma measuring 6x6x14 cm in the retro-rectal area, without signs of active bleeding. The patient was treated conservatively with intravenous fluids, fresh frozen plasma and packed red blood cells transfusions, vitamin K and O<sub>2</sub> therapy. An US-guided percutaneous drain was placed through the left iliac region and 30 mL of blood were drained. After clinical improvement, the patient was transferred to our hospital for further clinical care. At the time of

arrival, the patient was hemodynamically stable (BP 120/70 mmHg), with atrial fibrillation (150 bpm) and tachypnea (95% of SaO<sub>2</sub> with FiO<sub>2</sub> of 35%). Laboratory tests revealed: INR 1.9, WBC 22.400/mm<sup>3</sup>, RBC 2.810.000/ mm<sup>3</sup>, Hb 7.8 g/dl, PLT 107.000/ mm<sup>3</sup>; normal liver and renal functions. The patient was treated with packed red blood cells transfusions (2 units), antibiotics and calcium channel blockers. The full-body CT scan showed a reduction of the intraperitoneal fluid without of active bleeding signs (Fig. 1). After three days, patient general conditions became worse with signs of peritonitis, abdominal distension, leukocytosis (WBC 26.000/mm<sup>3</sup>), anemia (Hb 7,5 g/dl) and metabolic acidosis. We decided for a surgical approach. At laparotomy we found a large peri-rectal hematoma associated to an ischemic perforation of the sigmoid-rectal junction. We performed a recto-sigmoid resection (Hartmann operation) with pelvic hematoma evacuation. The patient was transferred to the critical care unit for cardiorespiratory monitoring. In the first postoperative day (POD), the patient was extubated but an acute respiratory failure required a mechanical ventilatory support again. In the second POD, the patient presented acute renal failure and was treated with haemofiltration. The culture exams of the abdominal drainage fluid showed the presence of gram negative bacteria and a Klebsiella carbapenem-resistant, so we started a systemic antibiotic therapy with piperacillin/tazobactam, linezolid and colistin. Owing to no response to the medical treatment, the patient died on the twelfth POD for septic shock.

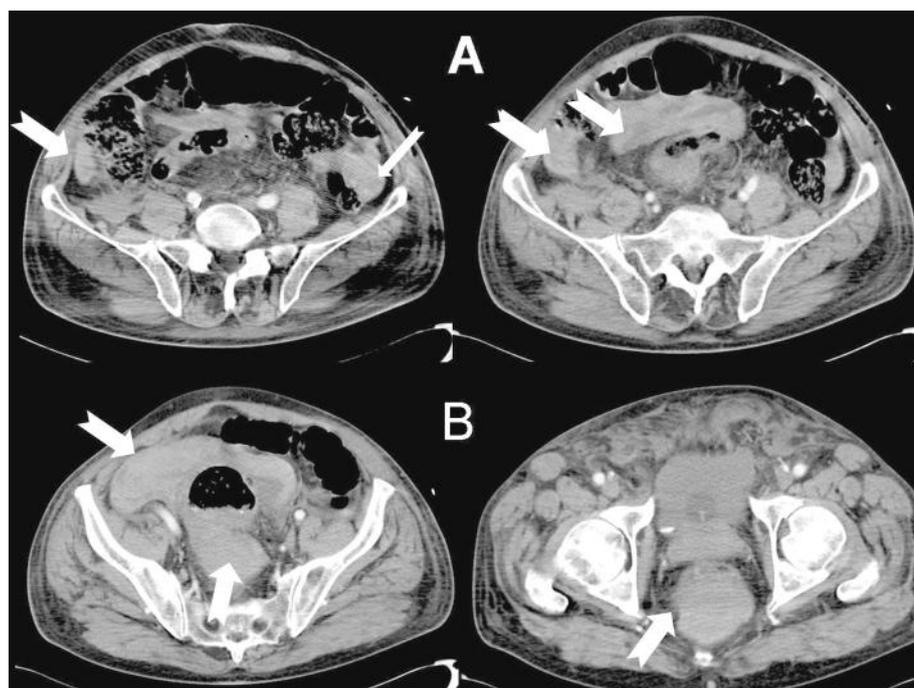


Fig. 1: Abdominal CT scan showing small intraperitoneal effusions (A, arrows) associated to the presence of an perirectal and retro-rectal hematoma (B, arrows), without signs of active bleeding or perforation.

## Discussion

The first description of GSH was made by McLouchlan in 1838, following an autopsy of a man who died for "dehydration and intestinal obstruction"; the condition was ascribed to a "false aneurysm"<sup>6</sup>. The first radiological description was made one hundred years later, by Liverud, that reported a clinical case regarding a man affected by a non-traumatic jejunal hematoma<sup>14</sup>.

As reported by recent papers, the main etiologic factor of non-traumatic intramural GSH is represented by the anticoagulant therapy<sup>4,5,15-18</sup>. The small bowel is affected in 85% of cases<sup>4,6,7</sup>, followed by duodenum (20-29%)<sup>17,19,20</sup>, colon<sup>18,21-23</sup> and esophagus<sup>15, 24</sup>. Cases of spontaneous rectal intramural hematoma have rarely been described (1-5%)<sup>10-13</sup>. Usually the bleeding starts in the submucosal layer and the most frequent clinical presentation is characterized by acute abdomen<sup>3</sup>, followed by occlusion<sup>8,15-18, 25</sup>, perforation and/or hemorrhage<sup>2</sup>. The CT scan of the abdomen is usually able to detect the hematoma but can be also useful to show signs of contrast leakage, the presence of ileus, the thickening and/or the compression of the intestinal wall and signs of mechanical bowel obstruction or perforation<sup>26,27</sup>. The US imaging has a role during the re-evaluation of hematoma when a conservative treatment is performed<sup>28-30</sup>. It detects the echogenicity changes relating to the organization of the hematoma and the appearance of peritoneal effusion as a sign of hemoperitoneum<sup>16</sup>.

From the surgical point of view, the main problem is represented by the choice between conservative and surgical treatment<sup>31</sup>. The conservative treatment starts by stopping the anticoagulation therapy, improving hemodynamic conditions, correcting electrolytes and INR values by administering vitamin K, fresh frozen plasma, packed red blood cells and antibiotics. The use of transcatheter arterial embolisation has also been reported<sup>9</sup>. In absence of complications, conservative approach remain the treatment of choice because the recurrence of bleeding and the late complications like stenosis and abscesses are unusual<sup>7</sup>.

In case of complications, such as active and persistent intra-abdominal bleeding, wall ischemia with or without bowel perforation and peritonitis, surgical treatment is mandatory and generally consists in a bowel resection with anastomosis<sup>31</sup>.

In our case, there was no radiological evidence of bowel perforation but an emergency laparotomy was decided for abdominal physical examination worsening. A strict clinical monitoring is crucial because the extraperitoneal position of the rectal hematoma, could make difficult to disclose a bowel perforation. In this circumstance, we believe that the Hartmann operation is the most indicated surgical procedure. The rectal wall damage caused by the hematoma in a patient with severe clinical conditions due both to the cardiomyopathy and the acute peritonitis, were considered risk factors of col-

orectal anastomosis dehiscence. However the unfavorable outcome of this case was probably related to the ongoing septic shock as a result of missing radiological evidence of rectal ischemic perforation and of a late surgical treatment in a patient with high comorbidity.

## Conclusions

In case of anticoagulated patients presenting with an acute abdomen, the diagnosis of GSH must be always considered and CT scan shows a significant diagnostic accuracy. GSHs of rectum are uncommon but most patients are treated successfully by conservative treatment. Surgery is reserved to complications as ischemic perforation and peritonitis. In these cases, clinical examination could be particularly accurate. At laparotomy it is important to stop the bleeding and avoid peritoneal contamination. However, in patients with a late perforation and serious co-morbidities, mortality remains significant.

## Riassunto

**INTRODUZIONE:** Gli ematomi gastrointestinali spontanei (GSH) rappresentano il 5-10% dei pazienti con addome acuto. Il trattamento non operativo (TNO) è l'approccio più frequentemente adottato con una percentuale di successo del 90% ma è possibile una evoluzione verso la perforazione viscerale spontanea. L'ematoma spontaneo intramurale del retto rappresenta solo il 1-5% degli ematomi della parete intestinale. Le scelte chirurgiche da adottare in questi casi possono risultare complesse specie in presenza di una grave comorbidity. In assenza di segni radiologici evidenti di perforazione intestinale ma in presenza di un quadro clinico di addome acuto, la scelta tra TNO e laparotomia può risultare difficile.

**CASO CLINICO:** Uomo di 70 aa, con cardiomiopatia dilatativa grave, BPCO, portatore di valvola mitralica meccanica ed in trattamento con anticoagulanti orali, si ricovera per la comparsa improvvisa di dolore sovrapubico trafittivo. Una TC addome mostrava un versamento periepatico, perisplenico, nelle docce parietocoliche ed un ematoma retro-rettale senza segni di sanguinamento attivo. A seguito del peggioramento delle condizioni generali, il paziente veniva operato e veniva riscontrata una perforazione ischemica della giunzione sigmoideo-rettale nella zona infarcita dell'ematoma. Il paziente veniva sottoposto a resezione sec. Hartmann ma moriva in 12 giornate postoperatoria per shock settico.

**DISCUSSIONE E CONCLUSIONI:** Anche se in genere gli GSH hanno una evoluzione spontanea favorevole, gli ematomi retro-peritoneali ed in particolare quelli del retto, possono evolvere in modo subdolo verso la perforazione. Il peggioramento delle condizioni generali deve sempre far pensare all'insorgenza della perforazione, anche se non è

confermata dalla Tc. Il ritardo del trattamento chirurgico specie in presenza di rilevanti comorbidità è gravato da una elevata mortalità.

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