

# Spontaneous Rectus Sheath Hematoma Masquerading as Acute Abdomen. A Case Report

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## ABSTRACT

A 60-year old female presented to the emergency department with complaints of acute abdominal pain and lump in the right upper abdomen. Physical examination revealed a large tender abdominal lump in the right hypochondrium, extending up to the right lumbar region. Further examination revealed that the lump was parietal and not intra-abdominal. Contrast Enhanced Computed Tomography abdomen was done and a right rectus sheath hematoma was diagnosed. No predisposing factor for spontaneous rectus sheath hematoma was identified. Following an unsuccessful conservative treatment, the patient underwent surgical drainage of rectus sheath hematoma with ligation of bleeding vessels. She fully recovered, with an uneventful postoperative period and without recurrence.

**Keywords:** rectus sheath hematoma (RSH), acute abdomen, spontaneous.

## INTRODUCTION

**R**ectus sheath hematoma (RSH) is an uncommon clinical condition in which there is collection of blood in the rectus sheath of the anterior abdominal wall possibly due to rupture of epigastric vessels or muscular tear (1). It is a condition characterized by history of trauma or presence of predisposing factors such as bleeding disorders, antiplatelet and anticoagulant use, insulin injections, increased intra-abdominal pressure and even as complication of laparoscopic cholecystectomy (2-6). Rectus sheath hematoma usually presents as

acute abdomen and the diagnosis may be missed without a high degree of suspicion. Prompt recognition and early diagnosis of rectus sheath hematoma can prevent unnecessary hospital stays and surgical interventions like laparotomy. Our patient had no such predisposing factors and development of rectus sheath hematoma was spontaneous. □

## CASE REPORT

**A** 60-year old female presented to the emergency department with complaints of acute abdominal pain and lump in the right upper ab-

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domen. She had no comorbidities and past history was significant only for pulmonary tuberculosis 40 years ago.

Physical examination revealed a large tender abdominal lump in the right hypochondrium, extending to the right lumbar region. Further examination revealed that the lump was parietal and not intraabdominal. Guarding was present over the right hypochondrium, right lumbar and right iliac regions; however, there was no rigidity or rebound tenderness. On auscultation, normal bowel sounds were present. At presentation, the patient had a blood pressure of 130/80 mm Hg and a pulse rate of 90 beats per minute. Routine blood investigations were sent and an abdominal ultrasound sonography test (USG) was done, which revealed a large heteroechoic collection in the anterior abdominal wall. The patient was admitted for observation. Contrast Enhanced Computed Tomography (CECT) abdomen confirmed the diagnosis of right rectus sheath hematoma (Figure 1).

Initially, the patient was managed conservatively, but decision to operate was taken for non-resolving and expanding hematoma, falling hematocrit and unimproved clinical symptoms and signs. The patient's hemoglobin and hematocrit at presentation were 9.4 g% and 24.1%, respectively. Abdominal USG revealed a 100 cc heteroechoic collection in the anterior abdominal wall. Also, CECT abdomen was done, which confirmed a well-defined heterogeneous collection in the intramuscular plane of the right upper anterior



FIGURE 2. Intraoperative picture showing hematoma beneath rectus sheath



FIGURE 3. Intraoperative picture showing hematoma evacuation following incision over right anterior rectus sheath



FIGURE 1. CECT abdomen showing right rectus sheath hematoma

abdominal wall involving the right rectus muscle suggestive of rectus sheath hematoma. Repeated blood examinations showed persistent fall in hematocrit. Hemoglobin on day 3 of admission was 7.2 g% with hematocrit of 20.2%. All other parameters were within normal range.

The patient underwent surgical evacuation of hematoma with ligation of bleeding vessels (Figures 2 and 3). The postoperative period was uneventful and she was discharged on the sixth day after surgery. On follow up, the patient had no recurrence and showed symptomatic improvement. □

## DISCUSSION

Rectus sheath hematoma (RSH) is an uncommon cause of acute abdomen (7). It can also present as septic shock and is called pseudosepsis because of its non-infectious etiology (8). A case of RSH mimicking acute appendicitis in a young man has also been reported in the literature (9). A predominance in the elderly and in women has been reported (10, 11). In most cases, patients have a history of trauma or taking antiplatelet or anticoagulant therapy. Only few cases of spontaneous rectus sheath hematoma (SRSH) have been described in the literature, with no history of any predisposing factor (7, 12).

Rectus sheath hematoma above the arcuate line is more common and usually does not cross midline, as hematoma is frequently small and limited between anterior rectus sheath and muscle fibers. Hematomas below the arcuate line dissect tissue planes and often extend across the midline due to absence of posterior sheath in this area, where the rectus abdominis muscle is supported only by transversalis fascia and parietal peritoneum (13).

The most common presentation in RSH is palpable abdominal mass associated with abdominal pain (14). An associated fall in hemoglobin could clinch the diagnosis of RSH. Other signs and symptoms may include nausea, vomiting, ecchymosis, fever or peritoneal signs. Depending on size and location, RSH may also present with hypovolemic shock or, rarely, abdominal compartment syndrome (10).

USG is employed as an initial screening test because it is less expensive and widely available

compared to CT abdomen (15). USG would typically reveal heterogeneity in rectus abdominis muscle or collection in large hematomas. However, CT scan is the diagnostic modality of choice for diagnosis of RSH. Rectus sheath hematomas are classified based on computed tomography scan findings and CT can be utilized to guide treatment (16).

Management of RSH is determined by patient's clinical status and classification. Rectus sheath hematoma is usually a self-limiting condition and spontaneous resolution is the general rule, especially with type I and type II RSH. Conservative treatment is favored for non-expanding hematoma in a hemodynamically stable patient (7, 12, 14, 17). Approximately 80% of patients are managed conservatively by cold compressions, rest and analgesics (10). Surgical intervention is required when conservative management fails and in hemodynamically compromised patients, usually a type III RSH. Delay in urgent surgical intervention in such patients can be fatal (18). Surgical options include evacuation of hematoma with ligation of bleeding vessel, which most commonly is the inferior epigastric artery or its branch in type III RSH. Angiographic coil embolization of bleeding inferior epigastric artery has also been described (19).

We opted for exploration and surgical evacuation in our patient, since there was a progressive fall in hematocrit with expansion of hematoma after failure of conservative management. Bleeding vessels were identified and ligated. The postoperative period was uneventful and the patient was doing well on follow up. □

## CONCLUSION

Rectus sheath hematoma presents as acute abdomen and may cause a diagnostic dilemma. Management is usually conservative. USG is used as an initial screening test and CT abdomen is the investigation of choice for diagnosis. Prompt recognition of this condition with early diagnosis and management can prevent prolonged hospitalization, unnecessary laparotomy and even death. □

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