

Spontaneous rectus sheath hematoma: A rare clinical entity

Ranga HR, Dev K, Singla S, Marwah S

ABSTRACT

Hematoma in the rectus sheath occurs due to rupture of an epigastric vessel or muscle tear. Spontaneous rupture of the artery is an uncommon entity which may mimic other acute abdominal conditions. The patient characteristically presents with acute abdomen, periumbilical discoloration and mass abdomen. However, this clinical condition is often misdiagnosed due to its rarity and lack of awareness. This often leads to unnecessary surgical intervention and subsequent complications. The present case reports highlight two such cases and describes their presentation, diagnosis and management.

Key words: rectus sheath hematoma, epigastric artery, spontaneous rupture, acute abdomen

INTRODUCTION

Spontaneous rectus sheath hematoma is an uncommon condition which has preponderance for elderly females, particularly on anticoagulant therapy or chronic abdominal straining.¹⁻³ It may mimic any acute abdominal disorder. Hence awareness of this rare clinical entity is very important. Computerized Tomography is diagnostic⁴ and the treatment is largely conservative⁵. We describe two such cases of spontaneous rectus sheath hematoma.

CASE REPORT

Case I: A 65 years old woman presented to emergency department with sudden onset of pain abdomen and bluish discoloration in periumbilical region 7 days back. There was no past history of trauma, any chronic ailment and drug use (anticoagulants). On examination, her vitals were normal. She had bluish discoloration around umbilicus extending to pubic symphysis (Fig 1).

There was tenderness and guarding in left and a 5 X 5cm lump was palpable in left lumbar region that was firm in consistency with smooth surface and ill-defined margins. Clinically, she was diagnosed as a case of acute abdomen possibly having acute pancreatitis with pseudocyst formation. Periumbilical discoloration was thought to be due to Cullen's sign. On laboratory investigations, her hemoglobin was 12.5 g/dL, urine examination was normal, total leucocyte



Fig 1. Infraumbilical skin discoloration (Case-I)

count was 18000 with polymorphonuclear leucocytosis, CRP level 186 mg/L, blood urea 34 mg/dL, blood sugar 120mg/dL, serum sodium 131 mEq/L, serum potassium 3.6mEq/L and serum amylase was 60 IU/L. Ultrasound (USG) showed a cystic lesion in left rectus muscle. CECT abdomen (Fig 2) revealed a hematoma in left rectus abdominis muscle.



Fig 2. CECT abdomen showing hematoma in left rectus muscle (Case-I)

MRI abdomen (Fig 3) revealed a hypodense lesion within the left rectus abdominis suggestive of acute to subacute hematoma.



Fig 3. MRI showing left rectus hematoma (Case-I)

Based on these investigations, diagnosis of spontaneous rupture of inferior epigastric artery was made. She was treated conservatively and improved. At 3 months follow up, her abdominal lump and skin discoloration had completely resolved.

Case II:

A 72 years old man presented in the emergency department complaining of sudden onset of severe pain located to right upper abdomen without any vomiting or fever. There was no history of any chronic cough or lifting of heavy weight. His vitals were normal. Abdominal examination revealed a tender mass measuring 7x10 cm in right hypochondrium. The mass was superficial, became fixed on leg raising test. His hemoglobin was 12.2 gm%, platelets 1.8 lacs/cmm, and International Normalized Ratio (INR) was 1.13. Ultrasonography abdomen revealed a hypoechoic lesion of size 5.5 x 2.5cm in muscle plain. A diagnosis of hematoma in the right rectus was suggested. CECT abdomen revealed a non-enhancing soft tissue density. Thus diagnosis of spontaneous rectus sheath hematoma was made and the patient improved on conservative treatment.

DISCUSSION

The rupture of epigastric artery leading to rectus sheath hematoma is well described in the

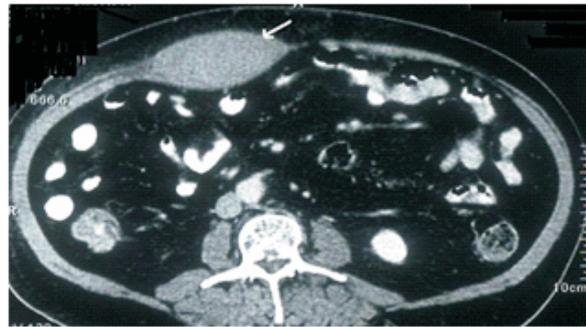


Fig 4. CECT abdomen showing hematoma in right rectus muscle (Case-II)

literature. Anatomically, the inferior epigastric artery ascends between posterior rectus sheath and rectus abdominis muscle. The loose attachment of the branches of inferior epigastric artery to the muscle puts it under stretch during strong muscular contractions. Moreover, cases with vascular degeneration are further prone to vessel rupture. Superior epigastric artery traverses the abdominal wall between posterior sheath and rectus muscle until it anastomoses with the inferior epigastric artery at the level of umbilicus. The rupture of superior epigastric artery is much rare.

There are many predisposing factors known to cause rectus sheath hematoma viz. anticoagulants, coughing/sneezing, lifting heavy weight, straining at stools or micturition, abdominal wall trauma, previous or recent abdominal surgery, subcutaneous injection, cardiovascular disease and pregnancy¹⁻³. Out of these, most common factor is anticoagulant therapy. Although, there are several reports of spontaneous rectus sheath hematoma⁶, but most of the times, the precipitating factors are not recognized.

The typical presentation is acute abdominal pain, nausea, vomiting and fever. On examination, hematoma is felt as a lump in the abdominal wall above the arcuate line in superior epigastric artery rupture and below the arcuate line in inferior epigastric artery rupture. The lump may not be always palpable because it is situated deep to the rectus abdominis muscle, especially in obese patients. On leg raising in supine position, the lump becomes fixed and more tender due to its location in the abdominal wall. (Fothergill sign).⁷

Sometimes, bluish discoloration over periumbilical region may be seen due to abdominal wall hemorrhage (Cullen sign) as was observed in the first case (Fig 1). Rarely, the hematoma may rupture into the peritoneal cavity and patient presents with hemoperitoneum and even abdominal compartment syndrome.

USG provides quick information about location and size of the hematoma. CT scan gives precise details of the hematoma especially in acute cases.⁴ Chronic hematoma is difficult to differentiate from tumor and warrants MRI. The hematoma is demonstrated as high signal intensity on both T1- and T2-weighted images.⁸

Most cases do not require hospitalization and respond to conservative treatment in form of rest, analgesics and local cold compresses. In severe cases (type III hematoma)⁴ surgical exploration, clot evacuation and ligation of bleeding vessel may be required. If facilities are available, catheter embolization of the bleeding vessel offers a suitable alternative to surgical

intervention especially in unstable and elderly patients.⁹ After resolution, rectus sheath hematoma usually does not recur.

Although rectus sheath hematoma is self limiting condition, its overall mortality is reported to be 4%.¹⁰ The mortality is higher in patients on anticoagulants and in elderly. The morbidity is primarily due to missed or incorrect diagnosis leading to unnecessary laparotomy. Emergency physicians must include this entity in their differential diagnosis so as to manage such cases properly and to avoid unnecessary morbidity and mortality.

AUTHOR NOTE

Hans Raj Ranga, Assistant Professor

Kapil Dev, Post-graduate student

Sham Singla, Professor

Sanjay Marwah, Professor, Contact:09416336886.

Email: drsanjay.marwah@gmail.com

(Corresponding author)

Department of Surgery, Pt BDS PGIMS, Rohtak, Haryana, INDIA

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