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Case Report
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# Giant Spontaneous Inferior Epigastric Artery Rectus Sheath Hematoma

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## Abstract

A spontaneous inferior epigastric artery rectus sheath hematoma is a rare condition where bleeding occurs within the sheath of the rectus abdominis muscle, often due to damage to the inferior epigastric artery or its branches. We present an adult case of giant spontaneous left inferior epigastric artery rectus sheath hematoma with dramatic life-threatening acute abdominal emergency which was managed successfully by conservative management.

**Keywords: Acute Abdomen; Abdominal Wall Hematoma; Clopidogrel; Hemorrhagic Shock; Inferior Epigastric Artery; Rectus Sheath Hematoma; Spontaneous**

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## Introduction

Rectus sheath hematomas are uncommon, accounting for only a small percentage of acute abdominal pain cases. We have had extensive experience in abdominal trauma and has seen hematomas in most locations including cycle handlebar duodenal hematoma, penile hematoma, visceral hematomas in solid organs and epidural hematoma following epidural anesthesia, but have not come across with such a giant spontaneous rectus sheath hematoma [1-3]. While most hematomas are caused by trauma (e.g., surgery, injury, injection), others arise spontaneously, often due to muscle strain from activities like coughing, vomiting, or straining during bladder and bowel movements. Inferior epigastric artery involvement: may cause bleeding from it or its branches, which supply blood to the rectus abdominis muscle and surrounding tissues. We present a case with extensive bleeding leading to a giant hematoma that extended into the preperitoneal space with hemorrhagic shock but its rupture into the peritoneum was prevented by prompt recognition and appropriate immediate treatment.

## Case Report

A 58-year-old female had thrombotic stroke 6 weeks ago and was recovering from it under virtual neurology ward for rehabilitation. Patient was readmitted in the neurology ward for management of seizures under neurology department. Patient developed gradually increasing left lower abdominal pain and gradually increasing abdominal distention over a period of one week, Patient was being treated conservatively with diuretics for possible ascites due to background of Non-Alcoholic Fatty liver Disease (NAFLD) and previous abdominal ultrasound has shown evidence of free fluid in the abdominal cavity.

Patient developed a massive lump extending in all three sectors of the left abdomen maximum being in left lower part and extending more laterally to left lateral lumbar region and disappearing in the posterior aspect of the left upper part. It has tenderness on palpation, and able to palpate lower and medial borders with a slight mobility. Patient has last opened bowels day before in a large amount but has not passed gas since morning and currently in moderate pain mainly due to the swelling started this morning.

When she went to rest room at early morning next day around 2 am for emptying her bladder, collapsed on the floor with pulse rate of 150/min with thready hardly palpable pulses, blood pressure of 90/50 mm Hg and hemoglobin of 60 Gm/L on point of care capillary bloods. Cardia arrest call went

**Figure 1:** Plain CT images A anteroposterior and lateral views. Note displacement of bowel loops medially and to the right and a massive soft tissue mass occupying left side of the abdomen.

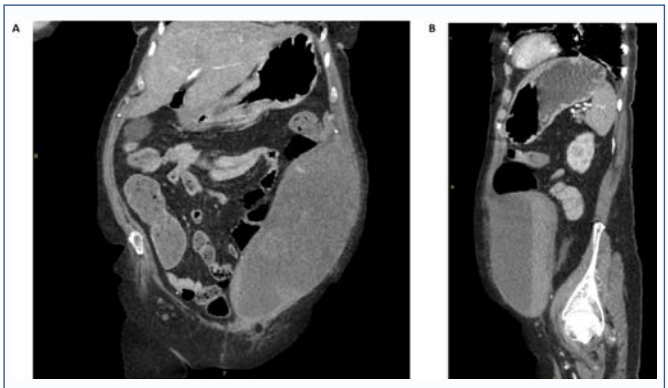

**Figure 2:** Contrast abdominal and pelvis CT A. coronal and B sagittal views demonstrating left anterolateral massive hematoma well contained in the left rectal sheath anteriorly in the inferior epigastric artery territory.

out and emergency team started immediate resuscitation. Diuretics, clopidogrel and fluid restrictions were stopped immediately and fluid resuscitation followed by packed red cell units were requested. Acute abdomen with catastrophe was suspected by neurology ward and discussed with medical team and a contrast enhanced CT scan was requested.

CT abdomen and pelvis with contrast showed a giant left sided rectus sheath hematoma measuring 12.5x9x24cm with fluid-fluid level likely representing blood products. with no active bleeding source from the left inferior epigastric artery, no evidence of free abdominal fluid or hemoperitoneum, pneumoperitoneum or intestinal obstruction of perforation (Figure 1 and 2).

Vascular surgery consult indicated that as the active source of bleeding is absent; emergency interventional embolization intervention was not indicated but advised the general surgical consult for possible drainage of the giant hematoma.

At the surgical consult, acute on chronic giant left inferior epigastric artery rectus sheath hematoma extending to the left flank and back was diagnosed, imaging reviewed with radiology team. The patient has responded well to the resuscitation and was stable. Hematinic blood tests were added with a view to intravenous iron infusion and masterly inactivity with bed rest was advised in view of the fact that peritoneum was acting as superb tamponade and any attempt at exploration or drainage would decompensate the patient and recovery get delayed and potential complications added.

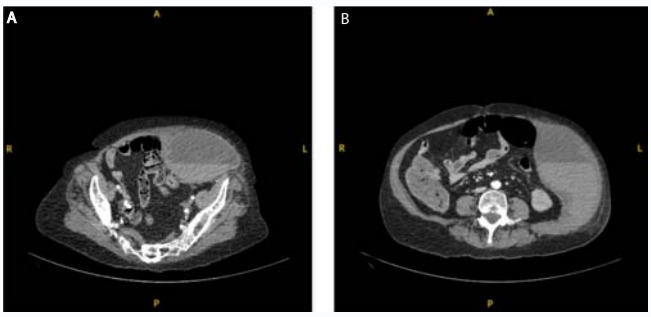

**Figure 3:** Cross sectional images of the CT scan A. at the origin of inferior mesenteric artery and B. the extent upwards at the splenic level.

Patient made an uneventful recovery following conservative management and discharged home after five days of hospital stay and at 3 month follow up is doing well clinically being asymptomatic and with complete resolution on ultrasound scan.

## Discussion

Risk factors include individuals on anticoagulant or antiplatelet medications, those with coagulation disorders, and those with a history of straining or coughing are at increased risk [4]. Our case had antiplatelet medication, series of intractable seizures following stroke in rehabilitation requiring several medications to predispose it left inferior epigastric artery bleed and slowly increasing hematoma for a week and or chronic band the straining at micturition would have precipitated the massive acute bleeding which led to hemorrhagic shock and collapse while diuretic therapy and fluid restriction for suspected ascites intensified the consequences.

The hematoma forms within the rectus sheath, the fibrous covering of the rectus abdominis muscle, which can be above or below the arcuate line (a horizontal line marking the lower border of the posterior rectus sheath).in the location and inferior one is more common.

It can present as a massive hematoma, causing significant abdominal pain and potentially leading to hemodynamic instability as happened in our case. Patients typically experience symptoms of abdominal pain, which may be sharp or cramping, and a palpable mass in the abdominal wall. Other symptoms can include bruising, nausea, vomiting, and fever [5].

Diagnostic initial ultrasound assessment followed by an abdominal CT scan with contrast is the preferred diagnostic tool, as it can accurately visualize the hematoma and its extent and whether the bleeding is active and extensive [6].

Management can be conservative (rest, ice, compression, analgesia) or may require blood transfusions, embolization of the bleeding vessel, or surgical intervention in severe cases especially with rupture and massive hemoperitoneum complications [7].

Potential complications of an untreated or massive hematomas can lead to hemodynamic instability, anemia, abdominal compartment syndrome, or even death [8].

## Conclusion

In conclusion, a massive, spontaneous inferior epigastric artery rectus sheath hematoma: the patient is likely experiencing significant pain and may have a large, palpable abdominal mass. There is a high

risk of hemodynamic instability with low blood pressure, rapid heart rate due to blood loss. Prompt diagnosis and treatment are crucial to prevent complications. Depending on the severity, treatment may involve blood transfusions, embolization of the bleeding vessel, or even surgical intervention to stop the bleeding.

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