

Spontaneous Rectus Sheath Hematoma Mimicking a Pelvic Mass with Complication: A Case Report

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ABSTRACT

A 53 years old woman presented with acute abdominal pain with a large and tense abdominopelvic mass, and hypovolemic shock without peritoneal signs. An ultrasonogram and a CT scan of lower abdomen demonstrated a large heteroechoic mass in the left side of the pelvis. Exploratory laparotomy revealed a concealed hematoma beneath the left rectal sheath occupying the left obturator fossa. The final diagnosis was spontaneous rectus sheath hematoma with retroperitoneal extension.

Keywords: Rectus sheath Hematoma, Abdominal wall hematoma

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A 53 year olds female presented at the emergency room of a provincial hospital nearby Bangkok. She had a rapid expanded abdominopelvic mass on the left side of the abdomen. The mass was approximately 10 cm in diameter. It had smooth surface, cystic consistency with mild tenderness but without signs of peritoneal irritation. There was an ecchymosis around the umbilical area. Her left thigh was enlarged with mild tenderness. Her past medical history was uneventful. She had never taken anticoagulant and denied history of abdominal injury. Her last pelvic examination was many years ago and no abnormality was noted. An initial physical examination revealed a pulse rate of 100 beats/min, a respiratory rate of 20/min, a blood pressure of 90/60 mmHg, with postural hypotension. She had good consciousness, was markedly pale without petechia or ecchymosis at another site except for the ecchymosis around the umbilical area. Her hematocrit was 23%.

The initial management at the provincial hospital included rapid intravenous infusion with 1,000 mL crystalloid fluid and 2 units of whole blood to maintain her vital signs at the acceptable level. The abdominopelvic mass was slightly decreased in size within a few hours and without sign of peritoneal irritation. The initial diagnosis was abdominal wall hematoma.

After the treatment and observation for 6 hours in the provincial hospital, the patient had stable clinical signs. The patient and her family wanted to be cared in the private hospital in Bangkok, so she was referred to a private hospital in Bangkok for further investigation and management. The physical examination at the private

hospital revealed normal vital signs without further intravenous fluid resuscitation. Pelvic examination revealed a tense cystic mass, approximately 10 cm located at the left side of the pelvic cavity with an extension to the left lower iliac region of the abdomen; CBC demonstrated a Hct of 33%, a WBC of 3,760 cells/cumm and a platelet count of 72,000 cells/cumm. A plain film of the abdomen revealed no free air or fluid. An ultrasonogram of the pelvis showed a large heteroechoic mass measuring about 6x7x8 cm³ in diameter. The mass was localized in the left side of the pelvis lateral to the urinary bladder displacing the bladder to the right side. The uterus had normal size and normal parenchymal echo. Both ovaries could not be visualized. An angiogram demonstrated normal arteries of the pelvis and upper thigh. CT scan of the pelvis and venogram showed almost completely occluded left common iliac, left superficial femoral and left popliteal veins due to clots. She developed swollen painful left thigh at the second week of the admission. The management included pain control, bed rest, consultation of vascular surgeon and gynecologist to find out gynecologic cause. The patient spent 3 weeks in the private hospital. Definite diagnosis could not be concluded.

At week 3 of the event, the patient was referred to Siriraj Hospital for further investigation and management. A hematoma in the pelvic area or an ovarian tumor with hemorrhage was suspected. After reviewing all information, the initial diagnosis was ruptured ovarian tumor with concealed hemorrhage, so that exploratory laparotomy was performed. Intraoperative findings revealed a large concealed organized hematoma beneath the left rectus sheath, invading the rectus muscle. The hematoma entirely occupied the left obturator fossa, and densely attached to the urinary bladder. A urologist was consulted intraopera-

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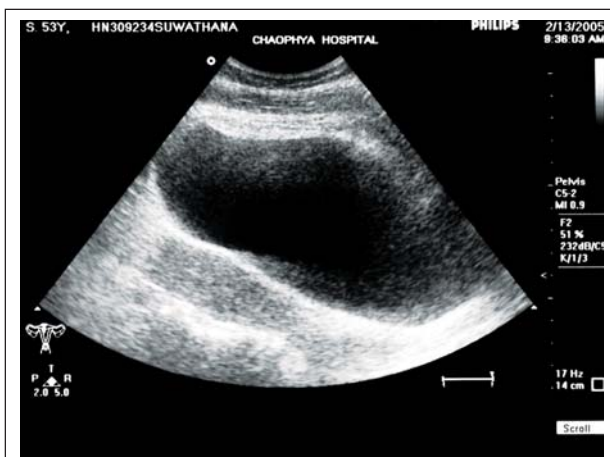


Fig 1. An ultrasonogram shows normal uterus (posterior to urinary bladder).

tively to identify the urinary bladder and left ureter. The blood clot was carefully removed. There was no active bleeding and the vessel of origin causing hematoma could not be identified. Postoperative diagnosis was spontaneous rectus sheath hematoma with retroperitoneal space extension.

After the operation, her symptoms were much improved. Her left thigh was examined by a vascular surgeon. Deep vein thrombosis was suspected and was confirmed by Doppler and Duplex scan. Anticoagulant therapy was prescribed for the condition.

DISCUSSION

The present report described an uncommon case of rectus sheath hematoma (RSH) with retroperitoneal space extension, presenting with rapid abdominopelvic mass and hypovolemic shock.

RSH results from the accumulation of extravasated blood into the sheath of rectus abdominis muscles. It is in general, secondary to rupture of an epigastric vessel or muscle tear. It may also result as a consequence of direct trauma, or occur spontaneously as a result of either violent twisting or abrupt change in body position. Other precipitating factors include anticoagulation therapy, coagulation disorders, recent surgery, medication injection

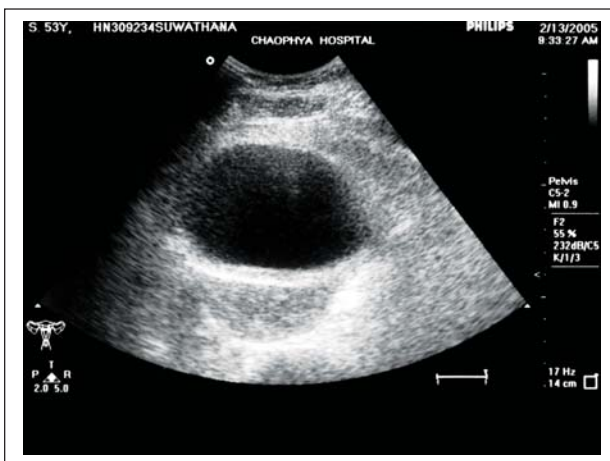


Fig 2. An ultrasonogram of the pelvis shows normal uterus (posterior to urinary bladder), both ovaries could not be visualized.

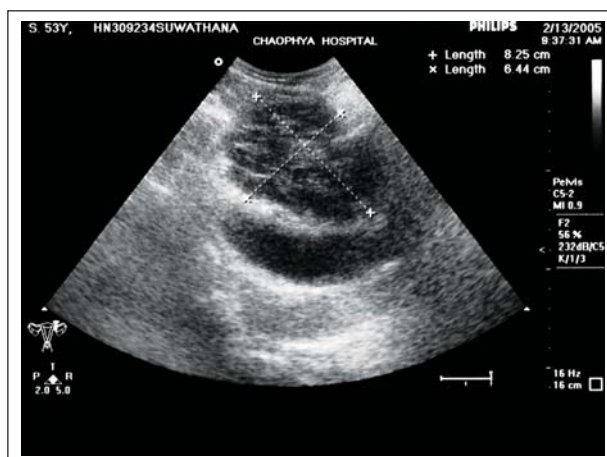


Fig 3. An ultrasonogram of pelvis shows heteroechoic mass diameter 8.25*6.44 cm2 anterolateral to the urinary bladder.

into the abdominal wall, or increased intra-abdominal pressure from coughing or pregnancy. RSH typically presents as a lower abdominal mass that becomes fixed and often tender under abdominal wall contraction.¹

RSH has been mistaken for almost all causes of acute abdomen. Using the imaging techniques, e.g., ultrasonography or CT scan, the condition can be diagnosed in most patients by the demonstration of a cystic or complex mass lesion within the confine of the rectus sheath. The hematoma that locates above the linea semicircularis, the lesion is limited medially by the linea alba and confined to one side of the abdominal wall. The hematoma that locates below the linea semicircularis, the lesion may project across midline. The RSH that does not invade the prevesicular space or peritoneum in a stable patient will often resolve nonoperatively with rectus rest and correction of any predisposing factors. The RSH that occurs in surgical patients during the postoperative period or in those taking anticoagulation therapy usually requires surgical interventions to control hemorrhage.²⁻³

The rectus sheath consists of two vertically aligned parallel muscles, a posterior blood supply originating from the internal thoracic and external iliac arteries, and an enveloping fascial sheath. Above the arcuate line, the rectus muscles are enveloped by fascia from the aponeurosis of the external oblique, internal oblique, and transversus muscles. Below the arcuate line, there is no posterior rectus sheath. There are 3-4 tendinous inscriptions anchoring the rectus muscles to the enveloping fascia above the arcuate line. RSH generally occurs after the rupture of a rectus muscle and the corresponding perforating epigastric vessels as a result of the significant mobility of the rectus muscles in the region below the arcuate line, which makes the firmly attached epigastric vessels liable to injury. Below the linea semicircularis, the absence of a posterior rectus sheath creates a locus minoris resistentiae, so the hematoma will be extended in this area.

In the present case, the bleeding point that created a large concealed hematoma could not be identified. The bleeding may originate from the vessels in the extraperitoneal space at the level of the pelvic floor and proceeded through the lower insertion of the rectus muscles, which was the locus minoris resistentiae, thus forming the RSH. This pathway of hematoma expansion may follow the course of the umbilical artery: It spreads from anterior aspect of the internal iliac artery, in contact medially with the

lateral and anterior walls of urinary bladder and laterally with the psoas muscle, the innominate line of iliac bone, and the internal obturator muscle, up to the base of pubis and the posterior face of inferior rectus muscles. The direct compression of the hematoma on surrounding organs may cause DVT, hydroureter, hydronephrosis, and sciatic neuralgia.⁴

CONCLUSION

The present case demonstrated an uncommon cause of pelvic mass. The case demonstrated the importance of

complete clinical information and the necessity of thorough investigations in a pelvic mass with atypical presentation before a definite management could be offered.

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บทคัดย่อ

การเกิดขึ้นเองของก้อนลิ่มเลือดที่ rectus sheath ทำให้มีลักษณะเหมือนก้อนที่ท้องน้อยที่มีภาวะแทรกซ้อน

ธันยรัตน์ วงศ์วนานุรักษ์ พ.บ. , ชัยรัตน์ สีลาพัฒน์ดิษฐ์ พ.บ., สิริภรณ์ สังขนันท์ พ.บ.

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ผู้ป่วยหญิงอายุ 53 ปี มาด้วยอาการปวดท้องฉับพลัน มีก้อนในท้องและมีภาวะช็อคโดยที่ไม่มีลักษณะของการระคายเคืองช่องท้อง จากการทำอัลตราซาวด์ และเอ็กซเรย์คอมพิวเตอร์บริเวณช่องท้องส่วนล่าง พบก้อนที่ขนาดใหญ่อันบริเวณท้องน้อยด้านซ้าย ผู้ป่วยได้รับการผ่าตัด ผลการผ่าตัดพบก้อนลิ่มเลือดบริเวณใต้ rectus sheath และอยู่ในบริเวณ obturator foramen สอดคล้องการวินิจฉัยคือ ภาวะก้อนลิ่มเลือดที่เกิดขึ้นเองที่ rectus sheath และมีการเจาะไปในบริเวณด้านหลังของช่องเยื่อช่องท้อง