

RECTUS SHEATH HAEMATOMA PRESENTING AS ACUTE ABDOMEN

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ABSTRACT

Rupture of epigastric vessels or tearing of the rectus abdominis fibres causes rectus sheath hematoma. Diagnosis can be difficult; a high index of suspicion is essential to prevent unnecessary surgery. Investigations of choice are an abdominal ultrasound and CT scan but the former may not always be helpful and the latter not always available. We are reporting a case that was properly diagnosed and treated on clinical grounds only.

KEY WORDS: Rectus Abdominis, Epigastric Arteries, Haematoma, Acute Abdomen

INTRODUCTION

Rectus sheath hematoma may present as an acute abdomen mimicking mostly as acute appendicitis¹. It can be caused by coughing or lifting heavy weights, and in patients taking anticoagulants². The diagnosis can be confirmed by ultrasound and CT scan³. Accurate diagnosis is essential to avoid an unnecessary laparotomy being performed.

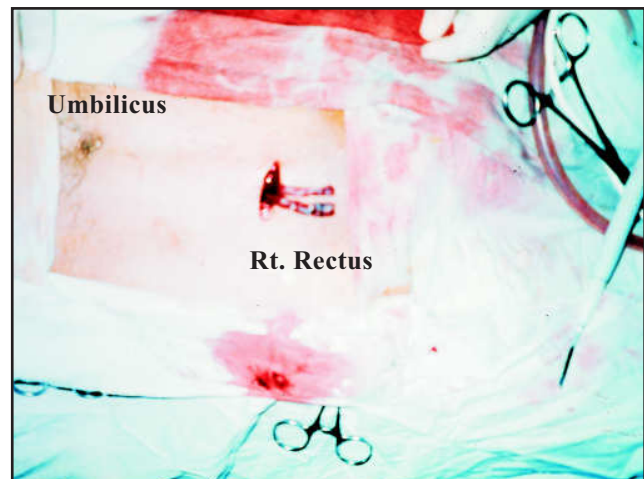
CASE REPORT

A young scout of 25 years presented to the emergency department with four hours history of lower abdominal pain. He was climbing up a wall with the help of a rope as part of his routine exercises, when he suddenly felt pain in his lower abdomen. The pain was severe and constant and aggravated by movements. There was no history of fever or gastrointestinal symptoms. His vitals were stable.

The abdomen was soft but markedly tender towards the midline below the umbilicus. Both the recti were palpated along their entire length and the right rectus was found tender between the umbilicus and the symphysis pubis.

There was no tenderness over the McBurney's point and no mass was palpable. Tenderness in this area, combined with the sudden onset of pain while climbing up the wall, prompted the diagnosis of a rectus sheath hematoma. The blood tests and the abdominal ultrasound were normal. The patient was operated through an ipsilateral Pfannenstiel incision over the right rectus, 2 cms above the pubis. The rectus sheath was opened. The rectus muscle was dusky blue and apparently intact. Lateral retraction of the muscle disclosed a hematoma of about 10cc with some fresh bleeding. On sweeping the right index finger across the under surface of the rectus muscle, a gap was felt where the muscle fibres were torn (Fig.1). Both ends of the torn fibres were delivered into the wound. The lower end was bleeding. Both ends were ligated and a vacuum drain placed deep

Fig.1. Ipsilateral Pfannenstiel incision showing the lower end of ruptured rectus muscle fibres



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to the muscle and the rectus sheath closed. The patient was asymptomatic immediately after the operation and made a good recovery.

DISCUSSION

Rectus sheath haematoma (RSH) is an uncommon and often misdiagnosed cause of acute abdomen⁴. It occurs due to rupture of rectus muscles or epigastric vessels^{5,6}. This occurs commonly below the arcuate line owing to significant mobility of the rectus muscle, exposing the fixed epigastric vessels to injury^{5,7}. The absence of posterior rectus sheath here allows the haemorrhage to cross the mid line, irritating bladder and peritoneum.

There are three types of RSHs, based on CT scan findings⁵. Type-I RSH is a unilateral haematoma contained within the muscles, Type-II RSH is bilateral or that not contained within the muscle sheath, while Type-III RSH invades the perivesical space or peritoneum. RSH can also occur above the umbilicus⁸.

RSH is more common between 50 and 60 years of age^{5,8}. Male to female ratio is 1:3⁸⁻¹⁰. It can occur spontaneously² but usually one of the following causes or risk factors is evident: violent bouts of cough, sneezing and vomiting, strenuous physical activity, pregnancy and postpartum period, lifting heavy weights, trauma, connective tissue disorders, leukaemia, alcoholic liver disease, atherosclerosis and hypertension. Iatrogenic causes of RSH include: paroxysmal cough immediately after extubation, anticoagulants, subcutaneous abdominal injections, haemodialysis, peritoneal access procedures, laparoscopic trocar injury^{5,8-16}.

Classically, the patient presents with sudden, severe, unilateral lower abdominal pain that increases with movement. The patient may have tachycardia and hypotension. A tender mass may be palpable in the lower abdomen, which does not disappear on raising the head (Fothergill's sign)^{5,8}. Ecchymosis of the abdominal wall may be evident. RSH may also present as a gradually enlarging abdominal mass mistaken for abdominal wall tumour¹⁷. Sudden severe haemorrhage can cause death⁴. Clinical diagnosis can be wrong in 50% of the cases¹⁸.

Differential diagnosis of RSH includes acute appendicitis, diverticulitis, mesenteric vascular ischaemia and dissecting aortic aneurysm¹⁶⁻¹⁸. Ultrasonography and CT scan can confirm the diagnosis of RSH with a sensitivity of 71% and 100% respectively^{1,3,5}. MRI is helpful in distinguishing chronic RSH from other anterior abdominal masses¹⁹.

Management of RSH depends on its radiological type²⁰.

Conservative treatment is appropriate for Types I and II RSH, consisting of bed rest, analgesia, volume replacement and cessation of anticoagulants. Surgery is reserved for patients with haemodynamic instability, significant pain or enlarging haematoma. Surgery consists of clot evacuation, ligation of bleeding vessels and closed suction drainage. Percutaneous aspiration and gel foam embolization have also been used²¹.

REFERENCES

1. Lohle PN, Puylaert JB, Coerkamp EG, Hermans ET. Non-palpable Rectus Sheath Hematoma clinically masquerading as appendicitis: U/S and CT diagnosis. *Abdo Imaging* 1995; 20(2): 152-154.
2. Decker R, Buhr H, Gahbauer H. Acute Rectus Sheath Hematoma, differential diagnosis of acute abdomen. *Chirurg* 1986 Jun; 57(6): 401-405.
3. Yokota T, Yamada Y, Takahashi M, et al. Rectus Sheath Hematoma; What is your diagnosis? *Ind J Surg* 1999 Oct-Nov; 61(5): 326-328.
4. Ducatman BS, Ludwig J, Hurt RD. Fatal Rectus Sheath Hematoma. *JAMA* 1983; 249(7): 924-5.
5. Charles WP, Bradley JP. Rectus Sheath Hematoma: Review of an uncommon surgical complication. *Hosp Physician* 2001 Sept; 35-37.
6. Naschitz JE, Tsikonov I, Yeshurun D. Hematoma of the Rectus abdominis muscle and sheath. *Am J Gastro* 1996; 91: 621.
7. Henzel JH, Pories WJ, Smith JL, et al. Pathogenesis and management of abdominal wall hematoma. *Arch Surg* 1966; 93: 929-35.
8. Gupta S, Kaushik R, Sharma R. Rectus Sheath Hematoma. *Ind J Surg* 2005; 67: 160-161.
9. Gallego AM, Aguayo JL, Soria BF, et al. Ultrasonography and CT reduce unnecessary surgery in abdominal Rectus Sheath Hematoma. *Br J Surg* 1997; 84: 1295-97.
10. Dubinsky IL. Hematoma of the Rectus abdominis muscle: Case report and review of literature. *J Em Med* 1997; 15: 165-73.
11. Slu WT, et al. Spontaneous Rectus Sheath Hematoma. *Can J Surg* 2003; 46: 390.
12. Maharaj D, Ramdas M, Teelucksingh S, et al. Rectus

- Sheath Hematoma: A new set of diagnostic features. *Postgrad Med J* 2002; 78: 755-6.
13. Satishkumar AJ, David JAG. Rectus Sheath Hematoma in patients with renal disease. *Nephrol Dial Transplant* 2002; 17: 1832-35.
 14. Hildreth DH. Anticoagulant therapy and Rectus Sheath Haematoma. *Am J Surg* 1972; 124: 80-86.
 15. Klingler PJ, Wetscher G, Glaser K, et al. The use of ultrasound to differentiate Rectus Sheath Hematoma from other acute abdominal disorders. *Surg Endosc* 1999; 13: 1129-34.
 16. Linhares MM, Lopes FGJ, Bruna PC, et al. Spontaneous hematoma of the Rectus abdominis muscle and sheath: A review of 117 cases with report of seven personal cases. *Intl Surg* 1999; 84: 251-257.
 17. D. Morioka, Y. Otsuka, S. Nozaki, M. Wako. Rectus Sheath Hematoma presenting as a gradually enlarging abdominal mass. *Europ J Plast Surg* 2002; 12: 326-328.
 18. Lambroza A, Tighe MK, DeCosse JJ, Dannenberg AJ. Disorders of Rectus abdominis muscle and the Rectus Sheath. *Am J Gastroenterol* 1995; 90: 1313-1317.
 19. Fukuda T, Sakamoto I, Kohzahki S, et al. Spontaneous Rectus Sheath Hematoma: Clinical and radiological features. *Abdo Imaging* 1996; 21:58-61.
 20. Berna JD, Garcia MV, Guirao J. Rectus Sheath Haematoma: Diagnostic classification by CT scan. *Abdo Imaging* 1996; 21: 62-64.
 21. Levy JM, Gordon HW, Pitha NR, Nykamp PW. Gelfoam embolization for control of bleeding from Rectus Sheath Hematoma. *Am J Roentgenol* 1980; 135: 1283-4.