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[症例報告]Spontaneous hematoma of the rectus abdominis muscle : A case report

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Spontaneous hematoma of the rectus abdominis muscle: A case report

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ABSTRACT

A case of hematoma of the rectus abdominis muscle in a 64 - year-old female is described. After a one-month tour to South America, the patient was admitted to a local hospital because of nausea, fever and swelling with rest pain of the left leg, and referred to the University Hospital. She had a soft, dome-shaped mass 5cm in diameter in the left lower quadrant of the abdomen. The diagnostic modalities including US, CT and MRI demonstrated a cystic mass of 8×7cm in size in the abdominal wall. However the diagnosis was inconclusive. On the surgery, a dome-shaped hematoma was found in the rectus sheath and between the bladder and the left femoral vein. The histological microscopic examination of the removed mass revealed a hematoma. The patient has been doing well 1.5years after the surgery. *Ryukyu Med. J., 15(1)23~26, 1995*

Key words: hematoma, rectus abdominis muscle

INTRODUCTION

Hematoma in the rectus abdominis muscle (rectus hematoma) is a rare, but well-recognized clinical entity. In general, spontaneous or non-traumatic hematoma of the rectus abdominis is commonly seen in elderly, obese, women in the course of anticoagulant therapy, and with atherosclerosis, bronchitis or abdominal wall scars^{1,2)}. It is a relatively rare disease and is seldom encountered during the career of the average surgeon. Consequently the correct diagnosis of rectus hematoma is rarely made because it is not often considered in the differential diagnosis, particularly when patients present with an atypical history and presentation^{1,3)}. We describe a case with rectus hematoma and reviewed literatures for the correct diagnosis and its optimum treatment.

CASE REPORT

A 64 - year-old female was referred to the University Hospital on September 8, 1992 because of a mass in the left lower quadrant of the abdomen. She made one-month tour of the South America (Argentina and Brazil) approximately three months prior to this admission. During the tour, she never had abdominal pain and gastrointestinal troubles. However, on the back way, she developed abdominal discomfort (nausea) and swelling of her left leg. She was admitted to a local hospital. On that hospitalization, she

complained of fever and pain of the left leg, and then was diagnosed to have a mass in the left lower abdominal quadrant. She was referred to the University Hospital (Gynecology and Obstetrics, and then Surgery I) for a close examination.

On admission, the patient appeared to be healthy, but obese (Body mass index: 25). The blood pressure was 124/70 mmHg; pulse rate 90/min.; breathing rate 20/min; body temperature 36.5°C. On the physical examination, a hard, smooth, dome-shaped, non-pulsating abdominal mass about 5cm in diameter was present in the left lower abdominal quadrant. Bowel sounds were normal. Rectal and pelvic examinations revealed no abnormalities.

Laboratory examination disclosed a hemoglobin level of 11.6g/dl, a leukocyte count of 6,000/mm³ and platelet count of 31.7×10⁴/mm³. The prothrombin time was 13.8 sec (std 14.0 sec).

Ultrasonography (US): A hypoechoic oval mass 8×7cm in size with an internal hyperechoic linear lesion was demonstrated in the left lower abdominal quadrant (Fig. 1).

Computed tomography (CT): It revealed a spherical mass with an enhanced rim and a homogeneous internal low density arising from the abdominal wall. The mass was 8×7cm in size, compressing the rectus muscle (Fig. 2).

Magnetic resonance imaging (MRI): Longitudinal T2-weighted images showed a gourd-shaped high-signal cystic lesion at the pre-rectal aspect in the pelvis (Fig. 3).

From these data, the patient was diagnosed to have an

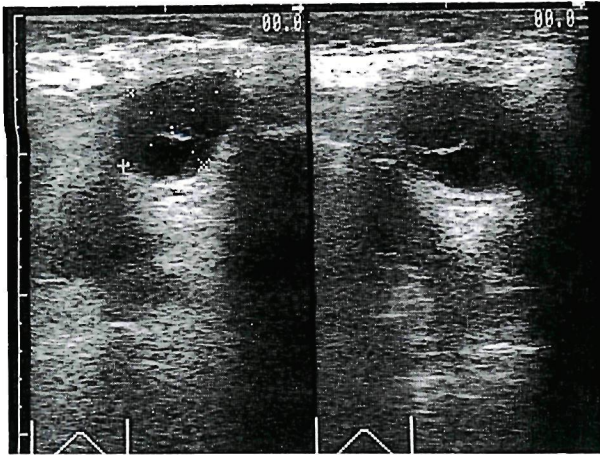


Fig. 1 Abdominal US showing a hypoechoic oval mass of 8×7 cm in size with an internal hyperechoic linear lesion in the left lower quadrant.

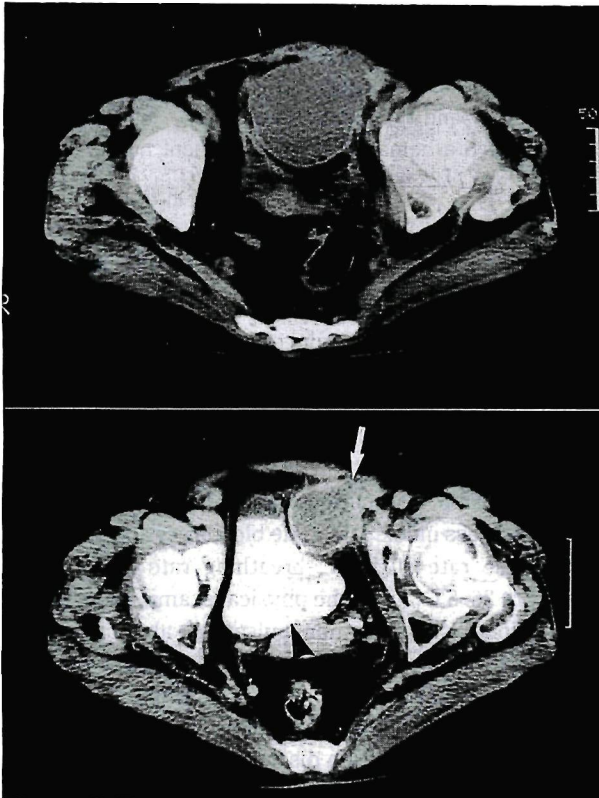


Fig. 2 Abdominal CT demonstrating a spherical mass with an enhanced rim and an internal homogeneous low-density attached to the anterior abdominal wall. White arrow: mass, Black arrow head: bladder

urachal abscess.

Operative findings: The operation was performed on October 2. A dome-shaped and cystic mass 5 cm in diameter was found in the space between rectus muscle and the posterior rectus sheath and between the bladder and the left femoral vein. The cystic mass was well-demarcated and could be easily removed.

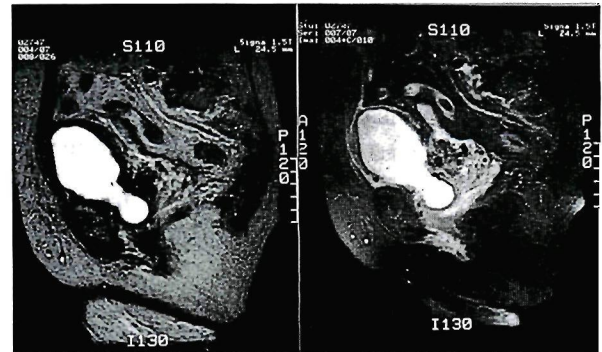


Fig. 3 MRI depicting (longitudinal T2-weighted images) a gourd-shaped high-signal cystic lesion at the pre-rectal aspect in the pelvis.

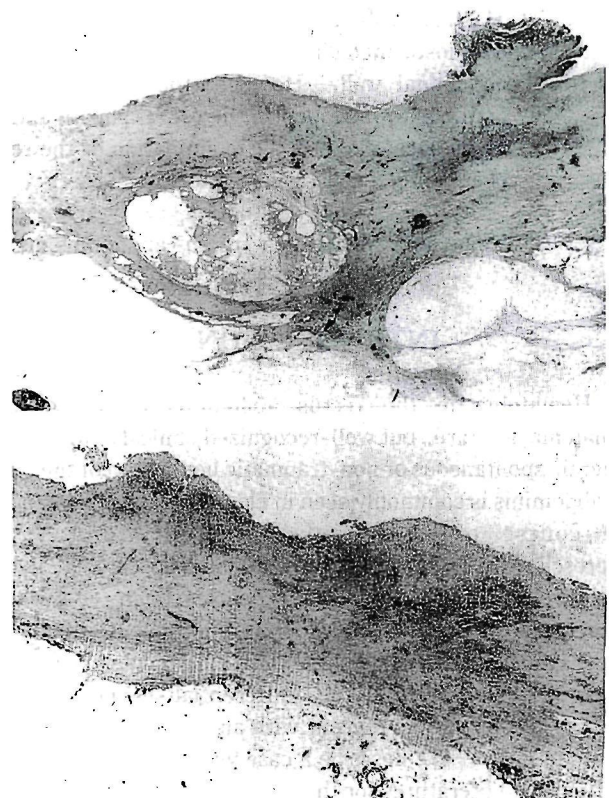


Fig. 4 Histology of the wall showing a dense fibrous tissue with infiltration of inflammatory cells (HE, ×5).

Pathologic findings: The cystic lesion contained about 20g of brown-colored, jelly-like old hematoma. Microscopically, the cyst wall was composed of the dense fibrous connective tissues with infiltration of hemosiderin-laden histiocytes, giant cells, lymphocytes and plasma cells (Fig. 4, 5). She was uneventful postoperatively and discharged. She has been doing well for 1.5 years after the surgery.



Fig. 5 Histology of the wall showing infiltration of hemosiderin-laden histiocytes and giant cells (HE, $\times 50$).

DISCUSSION

Rectus hematoma is resulted from rupture of the epigastric vessel and take the space between the rectus muscle and the posterior rectus sheath^{4,5}. The superior and inferior epigastric vessels lie in the layer between the rectus muscle and the posterior rectus sheath. Inferiorly the branches to the muscle are long, both because the main vessel is farther from the muscle and because the greatest change in length during muscle contraction occurs in the lower portion of the rectus muscle. Consequently the most common cause of rectus hematoma is a rupture of the inferior epigastric artery, rather than a muscular disruption. Thus, rectus hematomas are often found in the space between the rectus muscle and the posterior restus sheath in the lower abdomen where weakness of the posterior sheath permits accumulation of hematoma.

The present case was a typical case of rectus hematoma in the location. In the lower abdomen, hematomas become larger dissecting the peritoneum into the perivesicular space and accounts for peritoneal and cystic irritation or gastrointestinal symptoms⁶. Our patient did not complain of these symptoms that led us to make the incorrect diagnosis.

The chance of arterial rupture is particularly high when

vascular mobility is impaired by atherosclerosis or by abdominal scar tissues. The main contributory cause of the rectus hematoma is a simple mechanical disruption of the rectus muscle or rupture of epigastric vessels due to overstretching or overcontraction in pregnancy or marked obesity, coughing, weightlifting or gymnastics^{5,6}. The incidence of spontaneous hematoma has been reported to be 19 per cent among the rectus abdominis hematoma. The occurrence of a rectus hematoma in patients in the course of anticoagulant therapy^{7,8} has been reported as a complication.

Although the anticoagulant therapy itself does not cause bleeding, this will enhance the risk of developing a rectus hematoma. In our patient, the cause of the rectus hematoma remains obscure. Before the development of the rectus hematoma, she made a tour of South America (Argentina and Brazil) by an airplane. During boarding, she took a seat for a long time and used lavatory frequently. Thus, long time seating and frequent rising from the seat might be contributory to excessive stress or tension of the rectus abdominis muscle and leads to occurrence of rectus hematoma.

Although rectus hematoma is usually a benign, self-limiting condition, it may be fatal, ranging from 4%⁴ to 25 % in patients in anticoagulant therapy⁹. The correct diagnosis of rectus hematoma is rarely made, because it is not often considered in the differential diagnosis. In recent reports^{6,10}, the use of ultrasonography (US), computed tomography (CT) and magnetic resonance imaging (MRI) has advocated for early diagnosis. However, the results of these diagnostic modalities were not conclusive and optimal because the hematomas themselves are not a specific clinical entity. We found that the result was not conclusive and it was misinterpreted, resulting in unnecessary operation.

With regard to the optimum treatment, the choice of treatment depends on individual patient circumstances. When the diagnosis is reasonably certain, non-operative treatment is justified. We operated on the patient because the correct diagnosis could not be made. Thus, surgical intervention most commonly results from uncertainty of diagnosis. If serious question exists or large progressive hematoma with peritonitis occurs, exploration should be carried out.

It is important that rectus hematoma should be under consideration in the differential diagnosis of an abdominal mass, particularly in patients in the course of anticoagulant therapy or having predisposing factors. Awareness on the part of the physician of rectus hematoma is the most important to improve diagnostic accuracy and the best to perform an accurate treatment.

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