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CASE REPORT

A Rare Cause of Abdominal Pain: Rectus Sheath Hematoma

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ABSTRACT

Rectus sheath hematoma is an uncommon cause of abdominal pain. It usually occurs spontaneously or after blunt abdominal trauma. Differential diagnoses include ovarian torsion, ovarian cyst, appendicitis, acute cholecystitis, ruptured abdominal aortic aneurysm, abruptio placentae, intestinal obstruction, perforation, sigmoid diverticulitis, neoplasia, and strangulated hernia. Computerized tomography scan is useful in excluding other intraabdominal conditions, and is the gold standard for diagnosing rectus sheath hematoma. In this article, we present a case of rectus hematoma detected after low molecular weight heparin application.

Key words: *Rectus sheath hematoma, Low molecular weight heparin, Emergency medicine*

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ÖZET

Abdominal Ağrının Nadir Nedeni: Rektus Kılıf Hematomu

Rektus kılıf hematomu abdominal ağrının yaygın olmayan bir nedenidir. Genellikle spontan veya künt abdominal travma sonrası oluşur. Ayırıcı tanıda over torsiyonu, over kisti, akut apandisit, akut kolesistit, rüptüre abdominal aort anevrizması, dekolman plasenta, intestinal obstrüksiyon, perforasyon, sigmoid divertikülit, neoplazi ve strangüle hernia düşünülmelidir. Bilgisayarlı tomografi hastalığın tanısında altın standart uygulamadır ve diğer intraabdominal koşulların ayırıcı tanısında yararlıdır. Bu makalede düşük molekül ağırlıklı heparin uygulamasından sonra gelişen rektus kılıf hematomu olgusu sunuldu.

Anahtar kelimeler: *Rektus kılıf hematom, Düşük molekül ağırlıklı heparin, Acil servis*

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INTRODUCTION

Rectus sheath hematoma is an uncommon cause of abdominal pain[1]. It usually occurs spontaneously or after blunt abdominal trauma[1,2]. When abdominal pain occurs or an abdominal mass is found in patients with bleeding diathesis or anticoagulant drug use, hematoma should be considered in the diagnosis[3]. In this article, we present a case of rectus hematoma detected after low molecular weight heparin (LMWH) application.

CASE REPORT

A 57-year-old female applied to our emergency service with hemiparesis on the right side and unconscious state. On neurological evaluation, her eyes were deviated to the left side, and there was slight right-sided hemiparesis. Electrocardiography showed high ventricular rate atrial fibrillation. The cranial computerized tomography (CT) revealed parietotemporooccipital infarct on the left side. Her laboratory findings were as follows: hemoglobin: 9.5 g/dL, leukocytes: 5200 cells/mm^3, hematocrit (Hct): 30.6%, and platelets: 218.000/mm^3.

The patient was given enoxaparin sodium (120 mg/day total, twice a day subcutaneously), ramipril + hydrochlorothiazide (5 mg + 12.5 mg/day, orally). The patient was admitted to the neurology department. She began to improve neurologically on the fifth day of admission, her eyes were open, and she was conscious. She was able to obey orders and complained of constant severe lower abdominal pain. In the physical examination, prevalent sensibility and muscular defense were detected, and a mass was detected in the left lower quadrant of the abdomen. During the follow-up, hemoglobin was shown to decrease.

Ultrasonography (USG) revealed a hypoechoic well-defined 20 cm x 13 cm mass extending to the midline in the left lower quadrant of the abdomen. A lower abdominal CT scan obtained on the same day as USG demonstrated a mass of heterogeneous density located in the rectus sheath, measuring 30 x 14 x 73 mm, well-defined, containing fluid levels, compressing and impressing upon the intestine inferolaterally (Figure 1). It was understood that the enoxaparin injection was made into the rectus muscle. Rectus sheath hematoma was diagnosed. In the treatment, the patient was prescribed bed rest, analgesic medication and cold applications. The hematoma completely resolved spontaneously without surgical drainage.

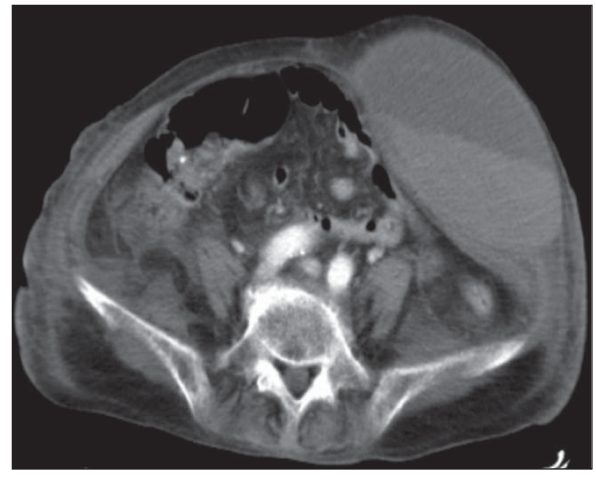

Figure 1. A lower abdominal CT scan revealed hematoma located in the rectus sheath.

DISCUSSION

Rectus sheath hematom was first described by Hippocrates and Galen, and the first case report was published in 1857[1]. Rectus sheath hematoma demonstrates a female to male ratio of 2-3:1, with the highest incidence in the fifth decade[2]. Severe coughing, hyperextension exercises, pregnancy, connective tissue disorders, renal disease, iatrogenic cases from insertion of peritoneal catheters, injections, the use of anti-coagulation, and blunt or penetrating abdominal trauma are included in the etiology of rectus sheath hematoma[1,4,5]. The main complication of anti-coagulant therapy is bleeding. The risk of hemorrhage may be correlated with the patient, as well as the intensity and duration of LMWH[5,6]. One of the advantages of LMWH is its ease of use. If LMWH is applied intramuscularly unintentionally, hematoma may develop in the area of application. In our case, there was an increased tendency to bleeding due to treatment with enoxaparin, and it was mistakenly injected into the rectus muscle, causing rectus sheath hematoma.

Rectus sheath hematomas are usually formed in the infraumbilical abdominal wall. Rectus sheath hematoma is a collection of blood in the sheath of the rectus abdominis muscle, secondary to either epigastric vessel tear or direct rupture of the rectus muscle's fibers[5,6]. Common presenting symptoms of rectus sheath hematomas are abdominal pain, an abdominal wall mass, abdominal wall ecchymosis, tachycardia, and fever[7]. Differential diagnoses include ovarian torsion, ovarian cyst, appendicitis, acute cholecystitis, ruptured abdominal aortic aneurysm, abruptio placentae, intestinal obstruction, perforation, sigmoid diver-

ticulitis, neoplasia, and strangulated hernia[8,9]. Error in application constitutes an additional risk of bleeding and may sometimes lead to serious morbidity[2,8]. Complications of rectus sheath hematomas are hypovolemic shock, infection, acute renal failure, myocardial infarction, myonecrosis, abdominal compartment syndrome, small bowel infarction, and death[1,5,6].

Abdominal radiography is usually helpful[1]. Lateral radiograph may show a soft tissue mass consistent with a hematoma[3]. Sensitivity of USG is 80% to 90%. CT scan is useful in excluding other intraabdominal conditions, and is the gold standard for diagnosing rectus sheath hematoma. Its sensitivity and specificity are 100%[1,2].

The mortality of rectus sheath hematoma patients has been reported to be 4%. However, in the patients who use anti-coagulation, the risk of mortality may increase to 25%[3,5,6]. Rectus sheath hematoma is rare and usually resolves spontaneously. However, it is often misdiagnosed, and patients undergo surgery unnecessarily[2,8]. Most patients can be managed conservatively with analgesia and fluid and blood resuscitation[1,2,5,6,10]. In this patient, bed rest, analgesic, ice pack application, and compression were applied[5]. In patients with coagulopathy, fresh frozen plasma, vitamin K, and protamine sulfate can be used[1,2,10]. When conservative treatment fails and hemodynamic compromise is apparent, surgery for the evacuation of the hematoma and ligation of the bleeding vessel should be considered. Arterial embolization is an alternative treatment to surgery in the patient with rectus sheath hematoma[1,2,5,10]. In our case, we applied bed rest, analgesic and ice pack application. Our patient's hematoma completely resolved spontaneously without surgical treatment.

In conclusion, acute abdominal pain with evidence of abdominal mass and anemic syndrome in patients using LMWHs must alert physicians to the diagnosis of rectus sheath hematoma. To achieve the diagnosis, the patient's history should be questioned in detail, including the use of drugs, and a careful physical examination should be done. CT scan is the gold standard investigation. Treatment options are variable and include conservative treatment, intravascular embolization and surgery.

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