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ABDOMINAL RECTUS SHEATH HEMATOMA DUE TO LOW MOLECULAR WEIGHT HEPARIN USE: A CASE REPORT

Derya Ozturk[1], Ertugrul Altınbilek[1], Cilem Caltılı[1], Guleser Akpınar[1], Harika Gunduz[1], Necmettin Sutasır[1], Ibrahim Ikizceli[1], Cemil Kavalci*[2]

[1]Şişli Hamidiye Etfal Training and Research Hospital, Emergency department, Istanbul, Turkey.
[2]Baskent University Faculty of Medicine, Emergency department, Istanbul, Turkey.

Corresponding Author:- **Cemil Kavalci**
E-mail: cemkavalci@yahoo.com

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ABSTRACT
Rectus sheath heamtoma is a rare clinical condition potentially mimicking acute abdomen. Rapid, detailed history taking supported by careful physical examination and appropriate imaging studies help make a correct diagnosis and avoid unnecessary laparotomies. This case report presents a rectus sheath hematoma due to low molecular weight heparin use in a patient with abdominal pain.

INTRODUCTION

Low molecular weight heparins (LMWHs) are widely used by virtue of their efficacy and safety in venous thrombosis, acute pulmonary embolism, and thromboembolism prophylaxis. Since they are clinically effective and safe, they have reduced the need for patient monitoring and their outpatient utilization has increased. Nevertheless, increased bleeding events and morbidity rates secondary to prophylactic LMWH use despite a recent significant decrease in the rate of deep vein thrombosis has recently sparked a debate among medical communities [1-5]. Multiple injection sites, minor bleedings at the sites of injection, and more severe, even life-threatening bleeding events, such as that occurring in rectus sheath, have been reported with LMWHs despite their favorable efficacy and safety profile [1,2,5,6]. Retroperitoneal bleeding is a rare but one of the most serious complications of anticoagulant therapy. Patients on anticoagulant therapy who have renal failure, advanced age, or comorbid diseases should be closely followed for this potentially fatal complication. The number of spontaneous rectus sheath hematoma cases has recently increased in parallel with increased anticoagulant prescriptions. These cases tend to have hemodynamic instability since a massive amount of blood can rapidly accumulate within a rectus sheath hematoma [5,7-10].

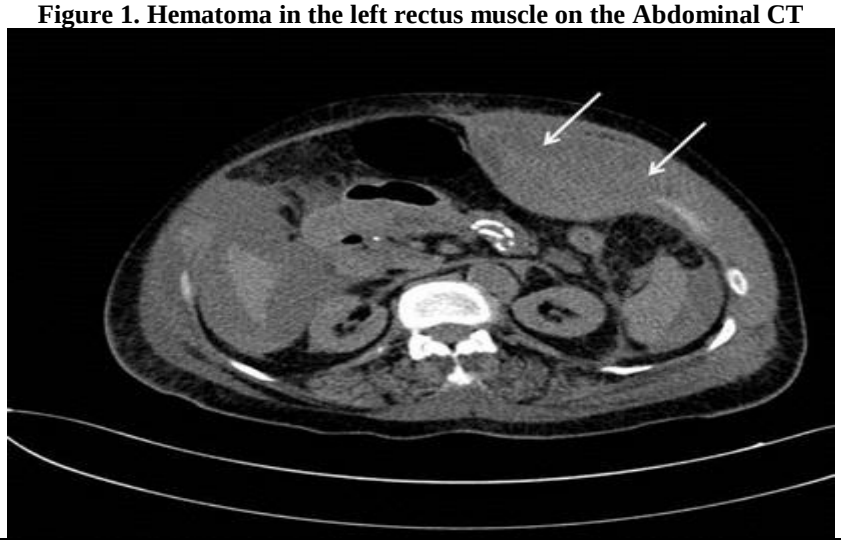
It is possible to classify hematomas by tomographic imaging. Type 1 hematomas are characterized by mild bleeding only in the intramuscular space. Type 2 hematomas are intramuscularly located, although bleeding occurs into the space between fascia transversalis and muscle. Type 3 hematomas are severe and are located between fascia transversalis and muscle, anterior to peritoneum and urinary bladder. Type 2 and 3 hematomas require therapy at a health institution. In these cases, it may take upto 3 months for a hematoma to fully disappear [5,11].

CASE REPORT

A 78-year-old woman was admitted to our emergency department with malaise, dyspnea, and

abdominal pain and swelling. Her past history was remarkable for coronary artery disease, chronic renal failure, chronic heart failure, chronic atrial fibrillation, and oral anticoagulant use for 2 years after a previous episode of deep vain thrombosis. Her oral anticoagulant had been stopped and replaced by a low molecular weight heparin after a rectal bleeding episode with an INR level of 3.5 one week ago. On physical examination she was modaretely distressed and consicous. She had a blood pressure of 90/50 mmHg, pulse rate of 104 bpm, and body temperature of 36.7C. Her abdomen was diffusely distended, with abdominal guarding and rebound tenderness in all abdominal quadrants. Her bowel sounds were normoactive. A mass-like formation with ill-defined borders was palpated in the left middle quadrant. The laboratory results were as follows: WBC: 5700 ul, Hgb:9.8 g/dl, Plt 185000 ul, Urea:150 mg/dl, creatinine:2.04 g/dl, INR: 1.39, PT:17.4 s, APTT:21.8 s, and other tests were within normal limits. An abdominal computed tomography revealed free fluid in perihepatic, perisplenic areas, and between bowel loops in all quadrants. It also showed a heterogenous lesion with a greatest size of 190*100 mm and an internal appearance consistent with a hematoma in the left rectus muscle, which started from intercostal level and extended to symphysis pubis (Figure 1). The patient later developed signs and symptoms of acute hemorrhagic shock and a control hemoglobin level was measured 5.8 g/dl. The general surgery department decided not to operate the patient and she was administered 10 units of packed red blood cells and 8 units of fresh frozen plasma. Her general condition subsequenlt improved and hemodynamic parameters were stabilized, and she was discharged without any surgical intervention performed at the 15th day of hospital admission.

Figure 1. Hematoma in the left rectus muscle on the Abdominal CT



DISCUSSION

Rectus sheath hematoma develops as a result of rupture of epigastric vessels within the anterior rectus abdominis sheath or blood accumulation within rectus sheath after the rupture of rectus muscle fibers [9]. It usually occurs secondary to anticoagulant drug use; systemic diseases such as leukemia, hemophilia, or collagen tissue disease; degenerative muscle disorders including myopathy, obesity, or malignancy; cardiovascular diseases such as hypertension, ischemic heart disease, or congestive heart failure; or direct trauma. It may also occur spontaneously [9]. Elderly people are prone to spontaneous rectus sheath hematoma owing to atheromatous changes and reduced eleasticity of epigastric veins. It is more common in women and advanced age [10]. Our case was similarly a female patient at her seventh decade. Rectus sheath hematoma is generally below the level of umbilicus although it may occur at upper abdominal areas as well. Hematomas below the semicircular line may cause irritation and a clinical picture resembling acute abdomen due to weakness of the posterior rectus sheath [12]. Rectus sheath hematoma clinically mimicks acute abdominal pathologies and patients may erroneously undergo laparotomy for other abdominal pathologies. Taking a careful anamnesis including the history of anticoagulant use, and a meticulous physical examination may provide clues for the diagnosis. Rectus sheath hematoma can be diagnosed with USG, CT, or MRI. CT is superior than USG in delineating the localization, size, and extent of hematoma. MRI is also useful for the diagnosis, however it is not widely preferred due to its cost and long imaging duration. However, it can clearly distinguish chronic hematoma and tumors [13-16]. In the case of newly developed signs of symptoms of hemorrhagic shock or acute abdomen during LMWH treatment anticoagulant therapy should be immediately stopped, and 1mg or 0.5 mg intravenous protamine sulfate should be administeredfor each 1 mg LMWH when less than 8 hours or 8-12 hours, respectively, have elapsed

since the last LMWH dose. Protamine sulfate is not useful beyond 12 hours from the last LMWH dose [2]. We stopped anticoagulant therapy in our case. However, we did not administered protamine sulfate because some 20 hours had passed since the last dose of LMWH. The clinical picture in these cases spontaneously regresses without any invasive intervention [9]. Our case also became hemodynamically stable at follow-up and thus no surgical intervention was carried out.

CONCLUSION

Rectus sheath hematoma should be suspected in elderly patients with an anemic look who present with abdominal pain and a mass lesion while being on subcutaneous low molecular weight heparin therapy. A computed tomography should be obtained at once for definitive diagnosis. A conservative approach is appropriate and a surgical intervention should be avoided whenever possible even when the hematoma is relatively large.

We also would like to remind that injections through abdominal skin should be carried out with utmost care or the injection site be switched to thigh region whenever possible in elderly people.

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