RECTUS SHEATH HEMATOMA

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ABSTRACT

PURPOSE: Spontaneous rectus sheath hematoma (RSH) is a rarely seen event. Complaints of abdominal pain are observed frequently and mass in the abdominal wall are encountered in patients. The most important risk factors in the development of the disease are anticoagulant drug use and coughing. In this case report two patients who did not use anticoagulants, diagnosed with RSH are discussed.

CASE REPORT: One of the patients was a 70 years old and the other was a 88 years old woman. Complaints of abdominal pain and mass in the abdominal wall were present in both patients. There was no anticoagulant drug in the anamnesis of the patients. Both patients were followed up conservatively. Patients were discharged respectively on the 8^{th} and the 7^{th} day since there were no complications during their follow-ups.

RESULT: RSH is a rarely seen event that should definitely be considered during the differential diagnosis of acute abdomen. Although the disease is generally seen in old patients using anticoagulants, it can be encountered, as such as in this case report, without the use of anticoagulants. The treatment of disease is generally conservative. Since mortality due to bleeding can be encountered rarely, hemodynamic findings of the patients should be followed carefully.

Keywords: Spontaneous, Rectus, Hematoma, Anticoagulant

INTRODUCTION

Spontaneous rectus sheath hematoma (RSH) is a rarely seen event that should definitely be considered during differential diagnosis of acute abdomen **(1).** The most frequently seen symptoms of the disease are abdominal pain and a mass in abdominal wall. The most important risk factors for RSH are female gender, old age, use of anticoagulant drugs and coughing or other abdominal traumas **(2).** Increase in old population and the use of anticoagulant drugs without sufficient control of coagulation parameters increase RSH incidence **(3).** Two patients who did not use anticoagulants diagnosed with RSH are discussed in this case report.

CASE REPORT

Case 1: Anticoagulant/antiagregant drug use, abdominal trauma and known medical history weren't present in the anamnesis of the 70 years old female patient who visited emergency room with a complaint of cyanosis and sudden abdominal pain that started a day ago. In the physical examination of the patient, palpable mass and tenderness were present in the area that extended from umbilicus to pubis in the right rectus localization and generalized ecchymosis filled all the lower right quadrant of abdomen that extended to pubis and right thigh. TA and pulse was 140/95 mmHg and 86/min, respectively. In the laboratory findings of the patient Hb, Hct and Plt were respectively 11.5, 36.4 and 186.000. Coagulation tests were in normal limits. In abdominal computed tomography (CT) performed to the patient, 95 mm long, 13 mm wide appearance which was compatible with intramuscular hematoma that extended from umbilicus towards pubic level and contained partly cystic regions inside the rectus muscle, was observed. Conservative treatment was performed to the patient. The patient with stable hemodynamic findings during follow-ups was discharged from the hospital on the 8^{th} day of hospitalization. Clinical picture of the patient at the application is presented in Figure 1.

Figure 1. Clinical picture of Case 1 during application.

Case 2: Anticoagulant/antiagregant drug use, abdominal trauma and known medical history weren't present in the anamnesis of 88 years old woman patient who applied to the emergency department due to complaints of coughing on-going for four days and pain in the right region of the abdomen. In the physical examination of the patient TA was determined to be 155/105. In the examination of respiratory system there were no other findings other than coarsening of breath sounds. In the physical examination, skin ecchymosis was

detected in the region extending from beneath of umbilicus to pubis and that was bigger in the right side of midline. This region was detected to be solid and sensitive with palpation. In abdominal CT examination, hematoma was detected in the right rectus muscle under umbilicus. Hct: 30, Hb: 9.5 gr/dL, WBC:7200, PLT: 183.000. Coagulation tests were in normal limits. Anti-hypertensive treatment (calcium canal blocker) and bronchodilalators (theophylline and salbutamol) were initiated. Conservative treatment oriented towards rectus sheath hematoma was performed. The patient with stable hemodynamic findings during follow-ups was discharged from the hospital on the 7th day of hospitalization. CT image of the patients is shown in Figure 2.

Figure 2. Abdominal CT image of Case 2

DISCUSSION

RSH is a rarely seen event and it is approximately 2-3 times more in women. In the pathophysiology of RSH, there is an accumulation 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 **(3).** It is seen frequently in old people **(4).** Many causes of RSH have been described, including trauma, anticoagulation medications, medication injection, hematological and coagulation disorders, increased abdominal pressure from straining, pregnancy, and hypertension. The most frequent predisposing factor is anticoagulation therapy **(5).** Therefore rigorous anamnesis from the patient to diagnose RSH, facilitates diagnostic process. While RSH development in the second case was considered to be related to coughing continuing for four days, in the first case there were no other explanation other than old age.

When literature is examined it can be determined that the most frequent cause seen in the development of RSH is anticoagulant drug use. A study conducted by Cherry et al. **(2),** one of the broadest series among these, reported a 69% anticoagulant use ratio. This ratio was reported as 100% in the study conducted by Dag et al. **(3)** with 22 patients and as 73% in the study conducted by Carkman et al. **(5)** with 15 patients. History of anticoagulant use was not present in the patients in this case report.

Most frequently seen symptoms in patients with RSH are abdominal pain, abdominal mass and fall in hemoglobin. And lesser seen symptoms are nausea/vomiting, tachycardia, orthostatic symptoms, hypotension, ecchymosis, syncope, peritoneal signs and fever **(2).** In the study conducted by Cherry et al. **(2)** it was reported

that abdominal pain was present in 84% of the patients and abdominal mass was detected in 63% of the patients. Sudden onset of abdominal pain was present in both of the patients in this case report. During physical examination, palpable mass and ecchymosis was detected in the frontal wall of the abdomen. Anamnesis and clinical findings of the patient are very important in RSH diagnosis. Coagulation parameters might be destroyed in patients with a history of anticoagulant use **(6).** A decrease in hemoglobin values, leucocytosis and thrombocytosis can be seen in laboratory examinations. Therefore hemogram control should be performed during the follow-ups of patients. Both ultrasonography (USG) and computed tomography (CT) can be used in the diagnosis. While sensitivity of USG is reported as 70-90%, sensitivity and specifity of CT is reported as 100%. Besides, CT is considered a gold standard examination in diagnosis because as the patient group is old and cardiac disease ratio is high, it is an effective method to distinguish diseases such as mesenteric ischemia and perforation with high rates of occurrence and to determine whether the bleeding related to the disease is active **(3-5).** Abdominal CT was used in both of the patients in this case report.

Early diagnosis and treatment of the disease decrease morbidity risk and need for surgical requirement. Primary treatment of the disease is conservative. In conservative treatment bed rest, analgesic, intravenous fluid replacement, cold application and compression are performed **(3).** If hemodynamic instability develops in the patient transfusion should be started. In case coagulopathy related to the use of anticoagulants or hematological disorder with factor deficiency is present, this situation should be quickly corrected **(5, 6).** K vitamin and fresh frozen plasma replacement should be performed to patients with coagulopathy related to anticoagulant use and factor replacement should be performed if deemed necessary to patients with coagulopathy related to factor deficiency **(3, 5, 6).** In patients with high risk of thromboembolism anticoagulant treatment should be started with heparin by controlling INR after bleeding is brought under control. When INR values reach desired levels heparin treatment should be terminated. Vascular embolization or surgical treatment should be performed in patients where hemodynamic stability can not be obtained with conservative treatment. Hematoma is drained by performing vein ligation in surgical treatment **(3).** Most of the patients that are diagnosed with RSH become hemodynamically stabilized with conservative treatment and blood transfusion. In the literature, conservative treatment ratio of 86% was reported in the study conducted by Chery et al. **(2)** and a ratio of 87% was reported in the study conducted by Dağ et al. **(3).**

It can lead to various complications such as RSH infection, acute renal failure, myocardial infarction,

hypovolemic shock, myonecrosis, abdominal compartment syndrome (ACS), small bowel infarction. Mortality ratio in patients with RSH is reported approximately as 4% **(3).** In the literature mortality ratio was reported as 1.6% by the study conducted by Chery et al. **(2),** 9% by the study conducted Dağ et al. **(3)** and 20% by the study conducted by Carkman et al. **(5).** We consider that the difference between reported mortality ratios is related to old age of patient population and to coexisting diseases. Another rarely encountered complication in RSH is ASC. The ACS is characterized with acute and pathologic increase of IAP, and if not treated, it is a clinical syndrome that leads to death **(7).** In accordance with our research only 4 cases of ACS related to RSH are determined in literature **(8, 9).**

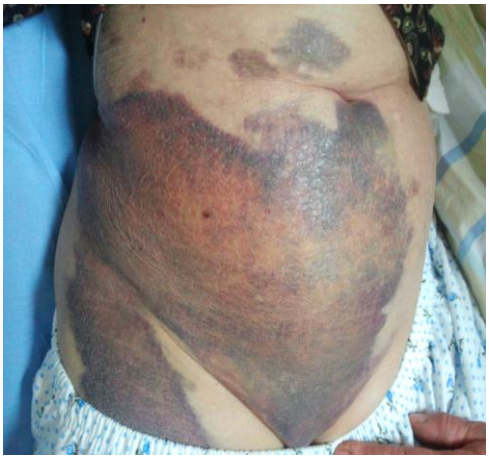
In conclusion; RSH is a rarely seen event that should definitely be kept in mind during differential diagnosis of acute abdomen in old female patients. Although there was medical history of anticoagulant drug use in considerable number of patients, RSH can present itself, like the patients in this case report, without the use of anticoagulants. Early diagnosis and treatment decreases morbidity risk and the necessity for surgical intervention. The treatment is generally conservative. Vascular embolization and surgical treatment should be performed to patients where hemodynamic stabilization can not be provided with conservative treatment. Mortality risk related to the disease is reported as 4%.

Conflict of Interest: I and other co-authors have no conflict of interest and financial support.

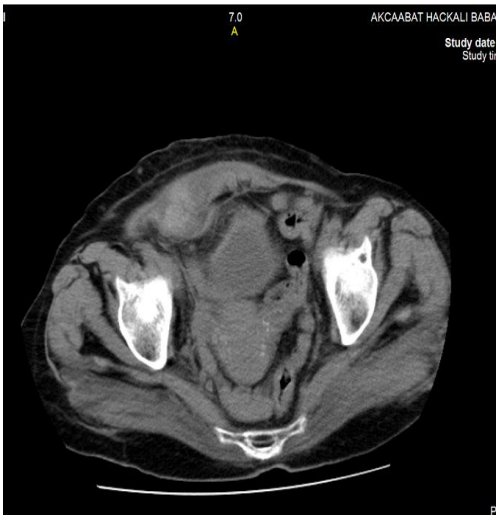
REFERENCES

1. De Martino C, Martino A, Giamattei RM, Viola G, Pisapia A, Fatigati G. [Spontaneous rectus sheath hematoma: a rare condition with uneasy diagnosis and multidisciplinary treatment. Report of 5 cases and review of literature]. Ann Ital Chir 2011;82:399-404.
2. Cherry WB, Mueller PS. Rectus sheath hematoma: review of 126 cases at a single institution. Medicine (Baltimore) 2006;85:105-10.
3. Dag A, Ozcan T, Yurkmenoglu O et al. Spontaneous rectus sheath hematoma in patients on anticoagulation therapy. Ulus Travma Acil Cerrahi Derg 2011;17:210-4.
4. Alla VM, Karnam SM, Kaushik M, Porter J. Spontaneous rectus sheath hematoma. West J Emerg Med 2010;11:76-9.
5. Carkman S, Ozben V, Zengin K, Somuncu E, Karataş A. Spontaneous rectus sheath hematoma: an analysis of 15 cases. Ulus Travma Acil Cerrahi Derg 2010;16:532-6.
6. Aykan A, Oguz A, Yildiz M, Ozkan M. A rare case of spontaneous rectus sheath haematoma in a patient with mechanical prosthetic aortic and mitral valves. Cardiovasc J Afr 2012; 12;23(6):e14-5.
7. Kesici U, Kesici S, Polat E, Agca B, Turkmen UA, Ozcan D, Sari MK. Effects of intra-abdominal pressure increase on intestinal ischemia and bacterial translocation in experimental sepsis model. Saudi Med J. 2011;32:813-7.
8. Jafferbhoy SF, Rustum Q, Shiwani MH. Abdominal compartment syndrome--a fatal complication from a rectus sheath haematoma. BMJ Case Rep. 2012 Apr 2;2012. pii: bcr1220115332. doi: 10.1136/bcr.12.2011.5332.
9. Cremades M, Garcés B, Arméstar F, Balibrea JM. Multiorgan failure secondary to intraabdominal compartmental syndrome due to rectus muscle sheath hematoma. Med Intensiva. 2012 Dec 19. doi:pii: S0210-5691(12)00283-5.

FIGURES



Şekil 1. Olgu 1'in başvuru sırasındaki klinik görüntüsü.



Şekil 2. Olgu 2'nin Batın CT görüntüsü.