

Atypical Presentation of Rectus Sheath Hematoma in a Hemodialysis Patient: Recurrent Abdominal Pain After Dialysis Sessions

Bir Hemodiyaliz Hastasında Rektus Kılıf Hematomunun Atipik Başvuru Şekli: Diyaliz Seansları Sonrasında Tekrarlayıcı Karın Ağrısı

ABSTRACT

Rectus sheath hematoma is a rare but well-known cause of acute abdominal pain. Rectus sheath hematoma is largely misdiagnosed as seen rarely. As a fatal disorder it must be suspected especially in patients receiving anticoagulant therapy for any reason. Heparin exposure during hemodialysis sessions and uremic bleeding diathesis causes chronic hemodialysis patients to be vulnerable to rectus sheath hematoma. Rectus sheath hematoma may be mild and self-limiting but also be so severe that it threatens life because of hypotensive shock and anemia-related risks. The patient may present without symptoms, with abdominal pain or with hemodynamic shock. We present a case report describing a patient with recurrent abdominal pain due to rectus sheath hematoma exacerbating after hemodialysis sessions.

KEY WORDS: Rectus sheath, Hematoma, Catheter, Heparin, Hemodialysis

ÖZ

Rektus kılıf hematomu akut karın ağrısının nadir fakat iyi bilinen bir sebebidir. Rektus kılıf hematomu nadir görüldüğü için sıklıkla atlanan bir tanıdır. Ölümcül olabilen bir bozukluk olduğundan özellikle herhangi bir sebeple antikoagulan tedavi almakta olan hastalarda şüphelenilmelidir. Hemodiyaliz seansları sırasında heparin maruziyeti ve üremik kanama diyatezi hemodiyaliz hastalarını rektus kılıf hematomuna açık hale getirmektedir. Rektus kılıf hematomu kendini sınırlayacak kadar hafif veya hipotansif şok ya da anemi ile ilişkili riskler nedeniyle hayatı tehdit edecek şekilde şiddetli de olabilir. Hasta semptomsuz, karın ağrısı ile ya da hemodinamik şok ile başvurabilir. Bu olgu ile hemodiyaliz seansları sonrasında şiddetlenen rektus kılıf hematomu nedeniyle oluşan tekrarlayıcı karın ağrısının anlatıldığı bir olguyu sunmaktayız.

ANAHTAR SÖZCÜKLER: Rektus kılıfı, Hematom, Kateter, Heparin, Hemodiyaliz

INTRODUCTION

Hypotension, cramps, nausea, vomiting and headache are among the most common complications that can be seen during hemodialysis sessions. Although bleeding from venous access sites can occur occasionally as a complication, the abdominal wall is not a frequently encountered region for bleeding in this patient group. Rectus sheath hematoma (RSH) is a rarely-occurring disease that is usually associated with anticoagulation, trauma, or spontaneous events.

Our patient had recurrent bleeding episodes into the rectus sheath after hemodialysis sessions causing abdominal

pain. This is a rare location to bleed and its recurring nature is the first one that has been reported in hemodialysis patients in the literature.

CASE REPORT

A 47-year-old male on chronic ambulatory peritoneal dialysis for six years presented with recurrent abdominal pain episodes beginning typically two to three hours after hemodialysis sessions. He also had abdominal bloating and shortness of breath. He had switched to hemodialysis five months ago because of recurrent peritonitis episodes. His peritoneal dialysis catheter was removed three months ago. His

İlhan KILIÇ
İlhan KURULTAK
Sedat ÜSTÜNDAĞ

Trakya University, Faculty of Medicine,
Department of Nephrology,
Edirne, Turkey



Received : 18.09.2016

Accepted : 06.01.2017

Correspondence Address:

İlhan KILIÇ

Trakya Üniversitesi Tıp Fakültesi,
Nefroloji Bilim Dalı, Edirne, Turkey

Phone : +90 284 236 49 81

E-mail : ilhankilic1@yahoo.com

hemodialysis sessions had been performed with unfractionated heparin of bolus therapy (25-30 IU/Kg) at the beginning of the dialysis procedure and were followed by a lower dose every hour (500-2000 U), with the last dose given no later than one hour prior to completion routinely.

He had asymmetrical swelling on the right lower abdominal quadrant on physical examination. He was free of rebound tenderness. Respiratory and cardiovascular system examination was normal.

He had severe anemia with a hemoglobin level of 6.8 g/dL, disproportionately low that would be expected in renal failure. Other laboratory parameters were; urea: 119 mg/dL, creatinine: 7.9 mg/dL, PT: 15.8 sec, aPTT: 32.3 sec, INR: 1.29, WBC: 7900/mm³, platelet count: 269000/mm³, reticulocyte: 1.23%, ALT: 15 U/L, AST: 13 U/L, LDH: 227 U/L, amylase: 102 U/L, lipase: 80 U/L, CRP: 17.3 mg/L, sedimentation: 19 mm/h, direct bilirubin: 1.1 mg/dL, indirect bilirubin: 0.4 mg/dL, haptoglobin: 189 mg/dL. As there were no schistocytes on peripheral blood smear examination, the Coombs tests were not performed.

No pathological image was seen on postero-anterior chest x-ray. There was a view of suspected organized hematoma on abdominal ultrasonographic examination. Its diameter was approximately 7 to 19 cm in the right rectus sheath in the perihepatic space up to the anterior surface of the spleen on non-contrast enhanced abdominal tomography (Figure 1). The hematoma was drained. An amount of 2000 cc during the next week and nearly another 1000 cc on the following month were discharged.

No microorganisms were isolated from the aspirate culture. Also no malignant cells were found on pathological examination of the drained fluid. His symptoms were relieved on the first

day of the aspiration. The hemodialysis sessions were started to be performed without heparinisation. The hematoma-related pain and abdominal discomfort did not recur at the consequent hemodialysis sessions.

DISCUSSION

Hemorrhage into the rectus sheath due to rupture of epigastric vessels is a rare complication of either hemodialysis or CAPD. It can occur spontaneously. Some procedure-related factors like heparinisation, trauma during peritoneal catheter insertion, uremic platelet dysfunction and frequent use of medications like clopidogrel, acetylsalicylic acid or warfarin can promote bleeding (1-3).

On differential diagnosis there are acute abdominal disorders like pancreatitis, hemoperitoneum, appendicitis, diverticulitis, cholecystitis, incarcerated inguinal hernia or torsion of an ovarian cyst (4,5). In our patient, asymmetrical swelling of the abdominal wall was detected on the physical examination. There was no rebound tenderness.

There was no leukocytosis. Serum CRP, amylase, lipase, total and direct bilirubin and liver enzyme levels were normal. The patient did not describe sudden onset of pain in his history. He described an onset recurring typically after hemodialysis sessions that raised suspicion of hemorrhage due to the use of unfractionated heparin. Ultrasonography and computed tomography helped us to distinguish from other likely diagnoses.

Treatment options are conservational approach or drainage via a catheter. The choice should be made on the cause, age and co-morbidities of the patient and speed of bleeding (6). We preferred urgent drainage via a catheter because of the patient's intense pain.

Some case reports about RSH due to fractionated heparin can be found in the literature. Sullivan et al. reported a 62-year-old chronically ill female and a 79-year-old male that developed RSH where low molecular weight heparin was used for deep vein thrombosis prophylaxis (7). Holmes et al. also reported a 75-year-old female who developed a RSH while on anticoagulation with unfractionated heparin for atrial fibrillation (8). Even though there are many other cases of rectus abdominis sheath hematomas in either hemodialysis or peritoneal dialysis patients, our patient's clinical presentation is the first one that was seen after 3 months post-removal of the peritoneal catheter. Recurring nature of abdominal pain after hemodialysis sessions was also another interesting feature of this presentation. Besides these, our patient is the first dialysis patient in the literature where RSH occurred due to unfractionated heparin. Physicians should be careful about this disorder because it needs a high level of suspicion and can be life-threatening but can be treated easily by simple methods.

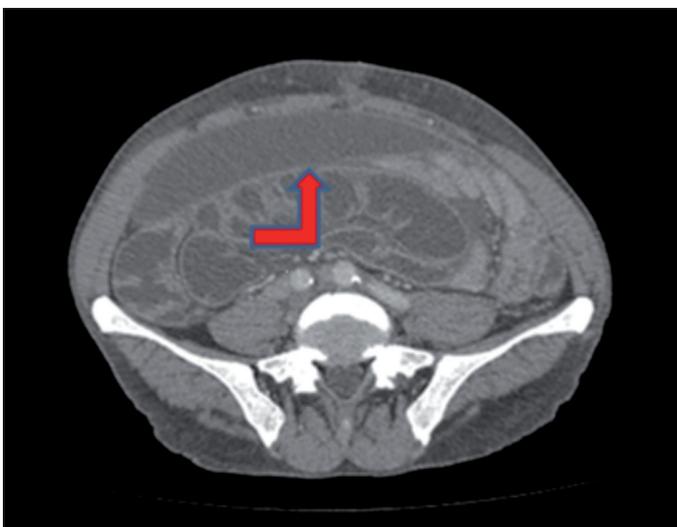


Figure 1: A 47-year-old male with intraabdominal fluid collection that pushes the colon and small bowel on axial computed tomography image is seen.

REFERENCES

1. Denard P, Fetter J, Zacharski L: Rectus sheath hematoma complicating low-molecular weight heparin therapy. *Int J Lab Hem* 2007;29:190-194
2. De Santo NG, Capodicasa G, Perna N, De Pascale C, Giordano C: Haematoma of rectus abdominis associated with dialysis. *Br Med J* 1972;3:281-282
3. Remuzzi G, Benigni A, Dodesini P, Schieppati A, Livio M, De Gaetano G, Day SS, Smith WL, Pinca E, Patrignani P, Patrono C: Reduced platelet thromboxane formation in uremia. Evidence for a functional cyclooxygenase defect. *J Clin Invest* 1983;71:762-768
4. Moreno Gallego A, Aguayo JL, Flores B, Soria T, Hernández Q, Ortiz S, González-Costea R, Parrilla P: Ultrasonography and computed tomography reduce unnecessary surgery in abdominal rectus sheath haematoma. *Br J Surg* 1997;84:1295-1297
5. Casey RG, Mahmoud M, Carroll K, Hurley M: Rectus sheath haematoma: An unusual diagnosis. *Ir Med J* 2000;93:90-92
6. Guivarc'h M, Boche O, Rouillet-Audy JC, Mosnier H: 33 cases of haematoma of the rectus abdominis muscle in a surgical department. *Chirurgie* 1990;116:602-608
7. Sullivan LEJ, Wortham DC, Litton KM: Rectus sheath hematoma with low molecular weight heparin administration: A case series. *BMC Res Notes* 2014;7:586
8. Holmes SJ, Yale SH, Mazza JJ: Rectus sheath hematoma as a cause of acute abdominal pain. *Am Fam Physician* 2001;64:1681-1682