

MASSIVE BLEEDING DUE TO PARACENTESIS- A CASE REPORT

PARASENTEZE BAĞLI MASİF KANAMA

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ABSTRACT

Abdominal paracentesis is a generally safe intervention that is performed for diagnostic and therapeutic reasons in patients with hepatic disease and accompanying ascites. Although abdominal wall hematomas occurring in needle puncture site is seen at less than 2%, severe bleeding requiring transfusion develops in less than 1% of patients. Complication rate is less than 1% in interventions performed at subinguinal median line. Bleeding complication may be less frequent because linea alba found at this site is avascular.

In this report, we present a case who was being followed for alcoholic hepatic cirrhosis and undergone paracentesis for tense ascites and subsequently developed abdominal wall hematoma and hemoperiton, with accompanying literature.

ÖZET

Karaciğer hastalığı seyrinde gelişen asitin teşhis ve tedavisinde kullanılan abdominal parasentez genel olarak güvenli bir girişim olarak kabul edilmektedir. İğne giriş yerinde gelişen abdominal duvar hematoma sıklığı %2'den az olmasına rağmen, bunların %1'den azında transfüzyon gerektiren ağır kanama bulunur. Subinguinal orta hattan yapılan girişimlerde komplikasyon oranı %1'den azdır. Linea alba bölgesinin avasküler olmasından dolayı komplikasyon daha az olabilir.

Bu yazıda, alkolik karaciğer sirozu ile izlenen hastada gelişen tens asit nedeniyle parasentez yapılan ve takiben abdominal duvar hematoma ve hemoperiton gelişen hasta, literatür eşliğinde tartışılmıştır.

INTRODUCTION

Abdominal paracentesis may be performed for diagnostic and therapeutic reasons in patients with hepatic disease and accompanying ascites. It is a generally safe procedure. Although abdominal wall hematomas occurring in puncture site is seen at less than 2%, severe bleeding requiring transfusion develops in less than 1% of patients (1).

In this report, we present a case who was being followed for alcoholic hepatic cirrhosis and undergone paracentesis for tense ascites and subsequently developed abdominal wall hematoma and hemoperitoneum, with accompanying literature.

CASE

Female patient, 49 years old, who was being followed for alcoholic compensated cirrhosis for three years ("Child-Pugh" classification, Child C, score 13) was admitted to a general hospital for abdominal distension and shortness of breath. After the detection of tense ascites, paracentesis was performed and 3 liters of fluid was removed from external lower left qu-

adrant of abdomen. One day after she was discharged, she was admitted to our hospital's emergency department due to pain in lower left quadrant and skin bruises. No distinctive characteristic feature was found in her personal and family history. Physical examination of icteric and pale patient revealed that her blood pressure was 80/40 mmHg and pulse was 130/min and rhythmic. Gastrointestinal system examination showed that abdominal distension and disseminated ecchymoses were present. Smooth surfaced 5 cms of hepatomegaly without pain and 3 cms of splenomegaly without pain were found. Tenderness and defence were present at all quadrants of abdomen. Other system examinations did not show any pathologic finding and her routine biochemical panel results included glucose 128 mg/dl, BUN 17 mg/dl, creatinine 1.2 mg/dl, sodium 132 mmol/l, potassium 3.4 mmol/l, ALT 35 U/l, AST 128 U/l, LDH 690 U/l, total bilirubin 8.4 mg/dl, direct bilirubin 3.8 mg/dl, total protein 5.9 g/dl, albumin 2.3 g/dl. Blood analysis showed a hemoglobin value of 3.5 gr/dl, hematocrit 10%, MCV 115 flt, leukocytes 13000/_1,

Dergiye geldiği tarih/ Date received: 09.05.2007 Dergiye kabul edildiği tarih: 19.09.2007

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Figure 1. Hyperdense hematoma extending to pelvis.

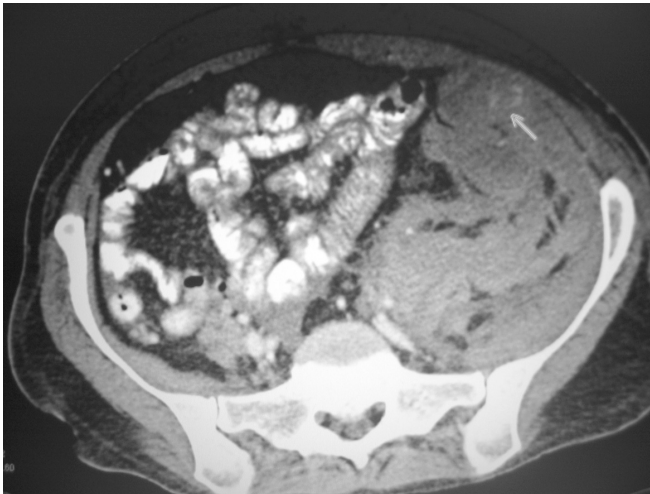


Figure 2. Millimetric extravasation at anterior of hematoma that extends to pelvis at left abdominal zone.

neutrophils 9000/ μ l, lymphocytes 2500/ μ l and platelets 107000/ μ l. Coagulation tests included aPTT 42 sec, PT 27.7 sec (prothrombin activity 22.5%) and INR 2.87. Creatinine clearance estimated by Cockcroft-Gault formula was 40 ml/min and standing direct abdominal radiography showed no pathologic findings. Ultrasonographic (USG) examination revealed perihepatic, perisplenic and pelvic anechoic free fluid and 70x50 mm collection that included anechoic and hyperchoic zones with heterogenous internal structure at lower left quadrant. Hypodense free fluid was observed in perihepatic, perisplenic and pelvic zones in contrast computed tomography (CCT) examination. At left abdominal-half segment, collection was observed that extended from splenic inferior to pelvis, of predominantly hyperdense heterogenous density with an anteroposterior diameter of 12 cms and considered firstly as an indication of an acute hematoma (Figure 1). Millimetric hyperdense foci were observed that suggested active extravasation anterior to hematoma, at iliac wing

level possibly at the paracentesis site (Figure 2). Aggressive blood and fresh frozen plasma replacement was performed and the patient developed hepatic encephalopathy. Her general condition deteriorated and she died.

DISCUSSION

Abdominal paracentesis is a diagnostic and therapeutic procedure that is routinely performed in hepatic disease. Although it is generally considered as a safe procedure, observations including bleeding, intestinal perforation and death were reported (1,2-5). Lower left quadrant or subinguinal median line may be used as intervention site. There are reports which suggest that bleeding complication is more frequent in interventions where iliac fossa is used (4,5). Although abdominal wall hematomas occurring in puncture site is seen at less than 2%, severe bleeding requiring transfusion develops in less than 1% of patients (1). In one study, severe bleeding developed in 0.2% of patients who received paracentesis for hepatic disease generally from lower left quadrant, and bleeding associated with death in 0.02% (2). Complication rate is less than 1% in interventions performed at subinguinal median line (5). Bleeding complication may be less frequent because linea alba found at this site is avascular. However, a study by Sakai et al. (6) showed that lower left quadrant had a better localization due to less abdominal wall thickness and greater ascites depth but complications were not evaluated in this study.

Bleeding after paracentesis may result from increased intravariceal pressure and thus, variceal rupture in response to sudden drainage of large-volume ascites fluid, in addition to direct needle puncture at superficial abdominal venous entry site (7,8). In our case, intramuscular acute hematoma with intraperitoneal extension at CCT and hemoperitoneum were detected at lower left quadrant and bleeding occurred at needle puncture site. Bleeding site is shown in Figure 2.

Although bleeding after paracentesis is seen in patients with preexisting renal failure and advanced stage of hepatic disease, it is most frequently observed during the course of alcoholic liver disease (2,9).

Symptoms include abdominal pain, tenderness and distension but they generally develop within 6-48 hours after paracentesis. In our case, abdominal pain and distension developed 24 hours after the procedure. Treatment includes fluid resuscitation and correction of coagulation disorders, but in some cases, laparoscopic vessel ligation or use of transjugular intrahepatic portal systemic shunt may be required (7). Our case was given fresh frozen plasma support in addition to blood and fluid resuscitation. Short-term mortality is quite high in patients developing hemoperitoneum (7).

In one study, it was shown that coagulation disorders with platelet values between 50- 90,000/mm³ and PT or PTT test values two times greater than arithmetical means of normal limits did not cause to increased bleeding after paracentesis (7). In another study, bleeding complication was not observed in paracentesis intervention with platelet value of 19,000/mm³ and INR of 8.7 (10). Thus, no association was found between risk of bleeding and platelet numbers or deg-

ree of coagulopathy (2,3,8). Prophylactic platelet or plasma transfusions are not required before the procedure (3,8). In order to avoid paracentesis complications, paracentesis should be performed from surgical scarring site and from rectal muscle to prevent damage to superior and inferior epigastric veins, by using small “gauge” needles and avoiding venous collaterals. In cases with tense ascites and thinner abdominal wall, paracentesis should be guided by USG due to displacement of epigastric arteries towards lateral regions (11). In conclusion, since bleeding is commonly seen in patients with preexisting renal failure and advanced stage –especially alcoholic- liver cirrhosis, large-volume paracentesis all at once should be avoided in this group and patients should be closely followed up after the procedure. Although lower left quadrant is a more succesful site for patients with cirrhosis and ascites, it should be considered that risk of bleeding development may be less at subinguinal median line localization due to its avascular nature.

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