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Akut Karının Nadir Bir Nedeni: Dalak Nekrozu

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Öz

Dalak iskemisi akut karın nedenleri arasında nadir görülen bir durumdur. "Akut karın" aniden ortaya çıkan, kendiliğinden oluşan, travmatik olmayan şiddetli karın ağrısıdır. Akut karın nedenleri; akut apandisit, akut kolesistit, ülser perforasyonu, akut pankreatit, ektobik gebelik rüptürü, akut mezeneter iskemi, dalak nekrozu vb. gibi çok çeşitlidir. Etiyolojisine göre çoğunlukla akut karında acil cerrahi girişim gerekirken Dalak nekrozu özel durumlar dışında medikal tedaviden yarar görür. Kliniğimizde Akut karına neden olan ve BT ile tanı konulan dalak nekrozlu 2 hastanın dalak iskemileri araştırıldı.

Anahtar Kelimeler: Akut karın, dalak, nekroz.

A Rare Cause of Acute Abdomen: Splenic Necrosis

Abstract

Splenic ischemia is a rare condition among the causes of acute abdomen. "Acute abdomen" refers to sudden, spontaneous, non-traumatic severe abdominal pain. The causes of acute abdomen are highly diverse, including acute appendicitis, acute cholecystitis, ulcer perforation, acute pancreatitis, ruptured ectopic pregnancy, acute mesenteric ischemia, splenic necrosis, and others. While most cases of acute abdomen require emergency surgical intervention, splenic necrosis, except for specific situations, may benefit from medical treatment. In our clinic, two cases of splenic necrosis causing acute abdomen and diagnosed via computed tomography (CT) prompted an investigation into splenic ischemia.

Keywords: Acute abdomen, splenic, necrosis.

Introduction

Acute abdomen is defined as sudden-onset, severe abdominal pain, typically developing within less than 24 hours and unrelated to trauma (Nores et al., 1998). It has various etiologies, including acute appendicitis, acute cholecystitis, acute pancreatitis, peptic ulcer perforation, ruptured ectopic pregnancy, ovarian torsion, pelvic inflammatory disease, splenic necrosis, and others (Spaziani et al., 2017). Splenic necrosis is an extremely rare cause of acute abdomen, with an incidence of approximately 0.01% –0.02% among all cases of acute abdomen (Salvi et al., 2007).

The spleen is a hematopoietic organ responsible for removing aged blood cells and providing immunity against encapsulated bacterial organisms. Splenic necrosis occurs due to arterial or venous obstruction, which is often caused by embolism or the congestion of abnormal cells within the splenic vein. The necrosis may affect either a small portion of the spleen or its entirety (Fernando et al., 2018). The causes of arterial and venous obstruction are highly varied and include leukemia, lymphoma, sickle cell anemia, atrial fibrillation, blunt abdominal trauma, and pancreatitis (Lu et al., 2023). Clinically, splenic necrosis manifests as severe left-sided abdominal pain. Imaging techniques, such as ultrasound and CT, are essential in identifying necrotic areas. In our clinic, two patients (a 42-year-old male and a 78-year-old female) presented with severe left-sided abdominal pain, and CT imaging confirmed splenic necrosis.

Case presentation

Case 1

A 42-year-old male patient presented to our clinic with complaints of abdominal pain, particularly localized to the left side, accompanied by muscular defense and tenderness. Upon taking the medical history, it was noted that the pain had been persistent and severe for three days. The patient was admitted for treatment and further evaluation. Blood tests revealed elevated hematocrit and hemoglobin levels, with RBC at 5.41 × 10^12/L, HGB at 16.8 g/dL, HCT at 50.2%, WBC at 9.7 × 10^9/L, PT (SN) at 18 seconds, and INR at 1.39 AU/mL, suggestive of secondary polycythemia vera.

Contrast-enhanced abdominal CT imaging (Figures 1, 2, and 3) demonstrated infarction involving approximately 30–40% of the spleen. The arterial phase revealed segmental occlusion of the splenic artery, while the venous phase showed a lack of contrast enhancement in splenic vein branches adjacent to the infarcted areas. The patient was managed medically, including dual antibiotic therapy and low-molecular-weight heparin. Oral intake was withheld, and intravenous fluid therapy was initiated. Clinical improvement was observed within 48 hours.

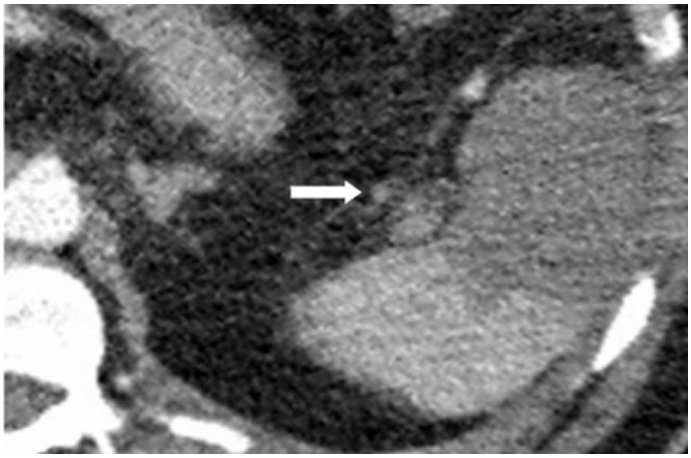

Figure 1: Solid arrow: In the arterial phase, no contrast enhancement is observed in the splenic artery branch at the hilar level adjacent to the infarcted area.

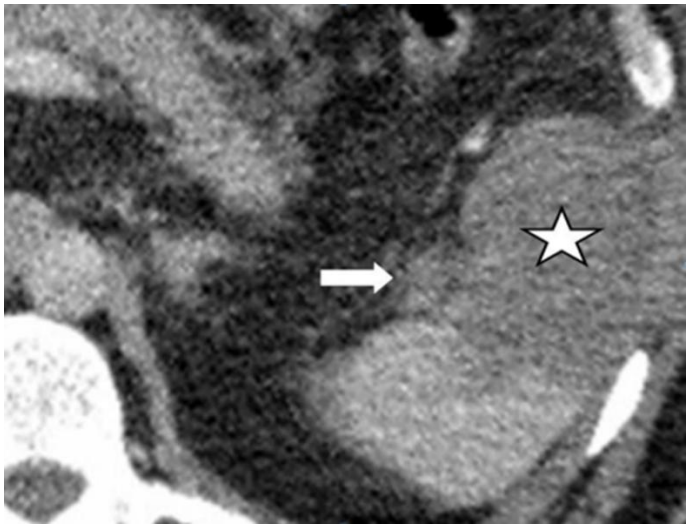

Figure 2: Solid arrow: In the venous phase, no contrast enhancement is observed in the splenic vein branches at the hilar level adjacent to the infarcted area. *: Infarcted area

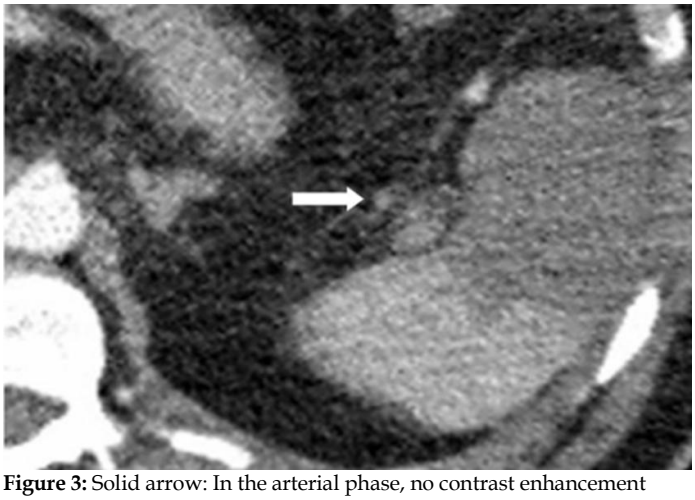

Figure 3: Solid arrow: In the arterial phase, no contrast enhancement is observed in the splenic artery branch at the hilar level adjacent to the infarcted area.

Case 2

A 78-year-old female patient was admitted for evaluation and treatment due to severe abdominal pain that had started one day prior. Contrast-enhanced abdominal CT imaging (Figures 4 and 5) revealed an infarction in the splenic parenchyma. No contrast enhancement was observed in the splenic artery and

vein branches adjacent to the infarcted area. Doppler examination did not clearly visualize the splenic artery and vein findings noted in the contrast-enhanced CT; however, the infarcted area was confirmed as patchy and hypoechoic on grayscale imaging.

The patient was treated medically with dual antibiotic therapy and low-molecular weight heparin. Oral intake was restricted. Symptoms regressed within three days. Laboratory findings included RBC: 4.43 × 10^12/L, HGB: 13.7 g/dL, HCT: 39%, WBC: 12.8 10^9/L, PT (SN): 14 seconds, and INR: 1.1 AU/mL.

Follow-up ultrasound examinations were performed after clinical improvement in both patients. No progression of the necrotic area, loculated fluid, or abscess formation was observed in the ultrasound findings.

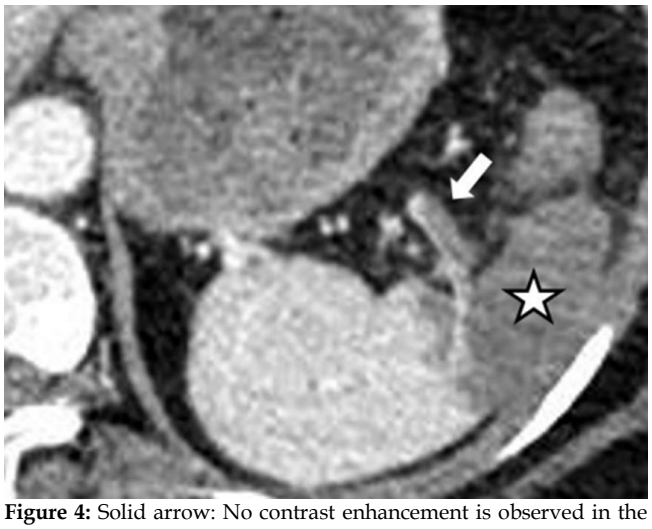

Figure 4: Solid arrow: No contrast enhancement is observed in the splenic vein branch at the hilar level adjacent to the infarcted area. *: Infarcted area

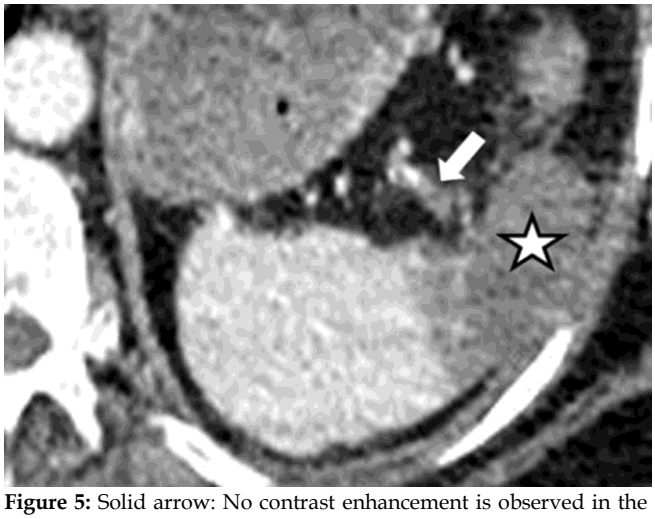

Figure 5: Solid arrow: No contrast enhancement is observed in the splenic artery branch at the hilar level adjacent to the infarcted area. *: Infarcted area

Discussion

The true prevalence of splenic necrosis, a rare cause of acute abdomen, is unknown due to the limited number of studies on this subject (Nelken et al., 1987). It is estimated that approximately 0.016% of patients presenting to emergency departments with acute abdomen have splenic necrosis. The most commonly observed clinical symptoms are left-sided or epigastric abdominal pain. However, 10% to 30% of cases do not report abdominal pain (Jaroch et al., 1986). Other clinical manifestations include fever, nausea, vomiting, chest pain, and dyspnea. Leukocytosis (WBC > 12,000) is frequently observed. The initial approach in cases diagnosed with splenic necrosis should involve investigating the underlying etiology. Cardiac embolism, infections, hematological disorders, and malignancies must be considered. Cardiac anomalies, atrial fibrillation (AF), left ventricular mural thrombus, mitral valve disease, and endocarditis are known causes (Trouillet et al., 1999).

Treatment

Treatment should be tailored to address the underlying cause. In the initial phase, pain control with analgesics, hydration, antiemetics, and antibiotic therapy may be considered. In cases of cardioembolic events, hypercoagulability, or malignancy, anticoagulant therapy is recommended. For patients undergoing medical treatment but developing abscesses, splenic rupture, or hemodynamic instability, surgical intervention may be required.

Conclusion

Although splenic necrosis is a rare cause of acute abdomen, it should be considered in the differential diagnosis. While most acute abdomen causes, such as acute appendicitis, peptic ulcer perforation, or ruptured ectopic pregnancy, typically require surgical intervention, medical treatment may suffice for splenic necrosis in most cases.

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