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Case Report / Olgu Sunumu

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A rare cause of acute abdomen: Isolated celiac artery thrombosis

Akut karın ağrısının nadir bir nedeni: İzole çölyak arter trombozu

Asım KOCABAY[1], Murat YILDIRIM[1,*]

[1]Tokat Gaziosmanpasa University, Faculty of Medicine

Abstract

Objective: Thrombosis of the celiac artery is a rare cause of acute abdominal pain. It is frequently associated with other cardiovascular events. The most common etiology is coronary artery disease and atherosclerosis. Chronic mesenteric ischemia may be present in 20–30% of cases. The main goal of treatment is to re-initiate decreased or stopped blood flow and prevent end-organ ischemia.
Case Report: We present a 62-year-old patient with total gastric necrosis, splenic infarction and partial liver necrosis due to rare isolated celiac artery trunk occlusion.
Conclusion: Occlusion of the celiac artery is a rare condition that is mortal after the last organ injury. Early diagnosis can be life-saving. If there are predisposing factors in acute abdomen, we think that clinician should keep in mind.

Keywords: Thrombosis, celiac artery, acute abdomen

Öz

Amaç: Çölyak arter trombozu, akut karın ağrısının nadir bir nedenidir. Sıklıkla diğer kardiyovasküler olaylarla ilişkilidir. En yaygın etiyoloji koroner arter hastalığı ve aterosklerozdur. Kronik mezenterik iskemi vakaların %20-30'unda mevcut olabilir. Tedavinin temel amacı, azalmış veya durmuş kan akışını yeniden başlatmak ve uç organ iskemisini önlemektir.
Olgu sunumu: Nadir izole çölyak arter gövde tıkanıklığı nedeniyle total gastrik nekroz, dalak enfarktüsü ve kısmi karaciğer nekrozu olan 62 yaşında bir hastayı sunuyoruz.
Sonuç: Çölyak arter tıkanıklığı son organ yaralanmasından sonra ölümcül olan nadir bir durumdur. Erken tanı hayat kurtarıcı olabilir. Akut karında predispozan faktörler varsa, klinisyenin bunu aklında tutması gerektiğini düşünüyoruz.

Anahtar Kelimeler: Tromboz, çölyak arter, akut karın

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Introduction

Thrombosis of the celiac artery is a rare and life-threatening condition of acute abdominal pain. Thrombosis of the celiac artery carries high mortality and morbidity when diagnosis and treatment are delayed. Conditions that increase the tendency of thrombosis, such as atherosclerosis, collagen tissue disorders, protein C deficiency, congestive heart failure, coagulation abnormalities, and malignancies, are predisposing causes of celiac artery thrombosis (1).The aim of treatment is to restore blood flow in the vessels and prevent end-organ ischemic damage and infarction. Although there are significant improvements in the diagnosis and treatment of celiac artery thrombosis, hospital mortality is still reported as 59-93% (2). We present a patient with gastric necrosis, total splenic infarction and acute liver failure due to isolated celiac artery trunk occlusion.

Case Report

A 62-year-old male patient was admitted to the emergency department with severe abdominal pain for 48 hours. His medical history revealed that she had undergone coronary bypass surgery 6 years ago and had a history of diabetes mellitus, coronary artery disease and asthma. He had no history of alcohol or smoking. On physical examination, the patient was agitated and hemodynamically unstable. Fever was 38°C, blood pressure was 90/60 mm/Hg, pulse was 120/min, respiratory rate was 28/min. ECG showed atrial fibrillation. Abdominal examination revealed tenderness and severe defenses in all quadrants.

In laboratory samples, hemoglobin value is 11.4 g / dl, white cell count is 17900 / µl, neutrophil percentage is 91.5. In biochemical parameters, blood glucose level was 215 mg / dL, blood urea nitrogen at 101 mg / dl, serum creatinine at 2.68 mg / dl, L, serum amylase level 65 U / l lipase level 42 U / L, C-reactive protein 359 mg, procalsitoin level was 35 ng / ml. In the quagulopathy tests partial thromboplastin time (PTT) of 44 seconds, prothrombin time (PT) of 19 seconds and international normalization ratio (INR) of 1.44 was noted.

The patient, who had free air under the diaphragm in the standing direct abdominal radiography, was operated immediately without additional radiological imaging. During laparotomy, widespread intestinal fluid was detected in the abdomen. The exploration revealed diffuse ischemia and necrosis on the anteri(or surface of the stomach, ischemia and infarct on the spleen, fibrosis and ischemia on the left lobe of the liver (Figure 1).

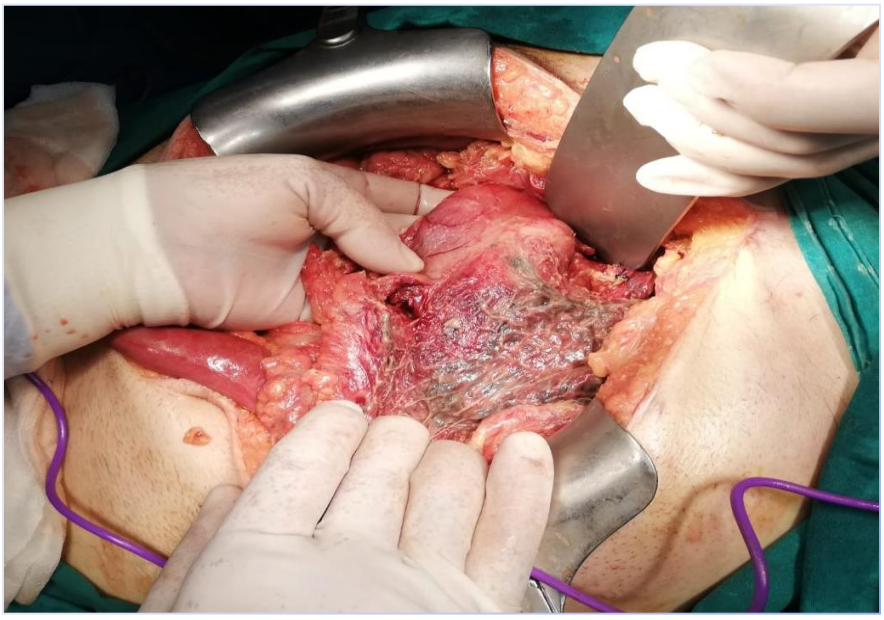

Figure 1. Stomach anterior, ischemia and necrosis

Other intestinal structures were intact. In the light of these findings, the intestinal structures were not affected and celiac artery involvement in the liver, spleen and stomach could cause ischemia and this area was explored. Celiac artery exploration revealed thrombus in this area and embolectomy was performed. Total gastrectomy was performed because the anterior wall of the stomach was completely necrotic. Splenectomy was performed because of splenic ischemia.

The patient was followed up intubated in the postoperative intensive care unit. Computed tomography angiography (Figure 2,3) showed celiac and hepatic artery occlusion.

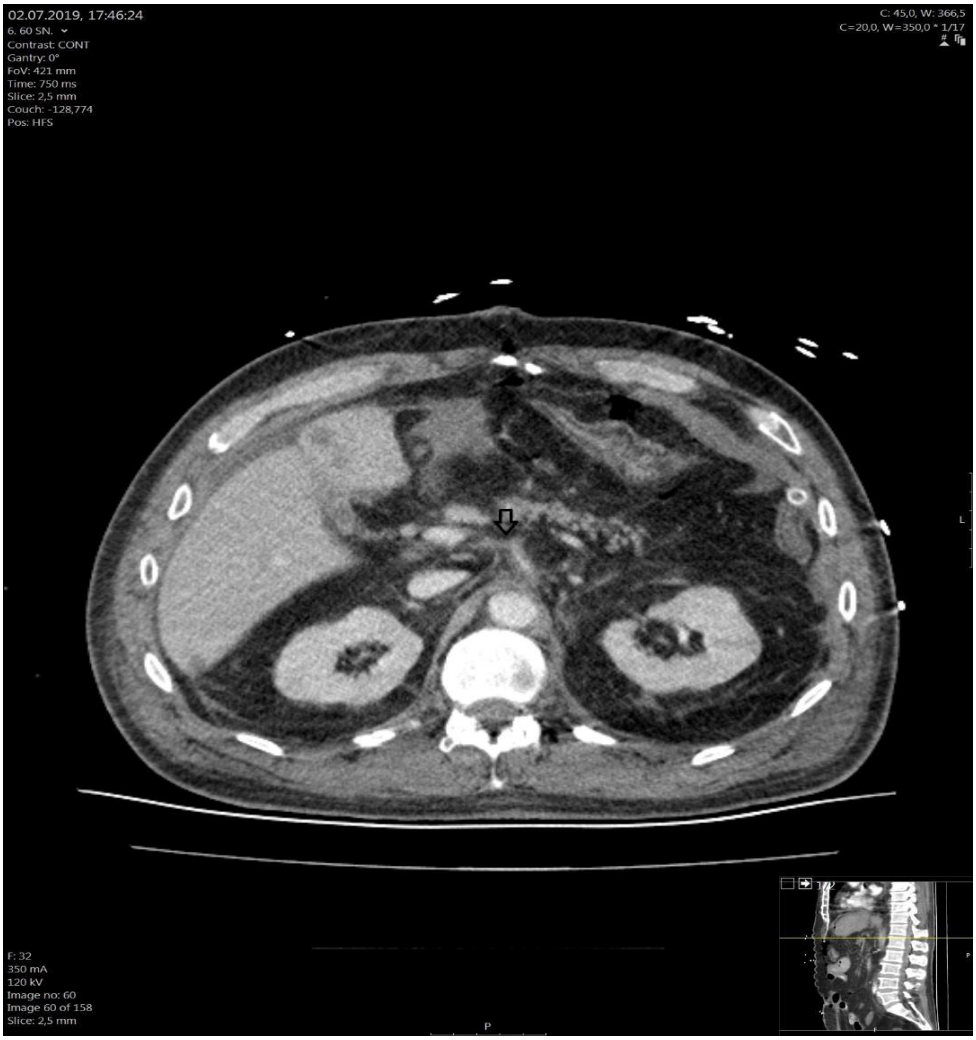

Figure 2. In contrast-enhanced axial multi-slice computed tomography, there is a significant narrowing of the celiac trunk orifice and the opening cannot be clearly defined. Significant narrowing of the celiac trunk lumen and hypodense thrombus formation along the wall

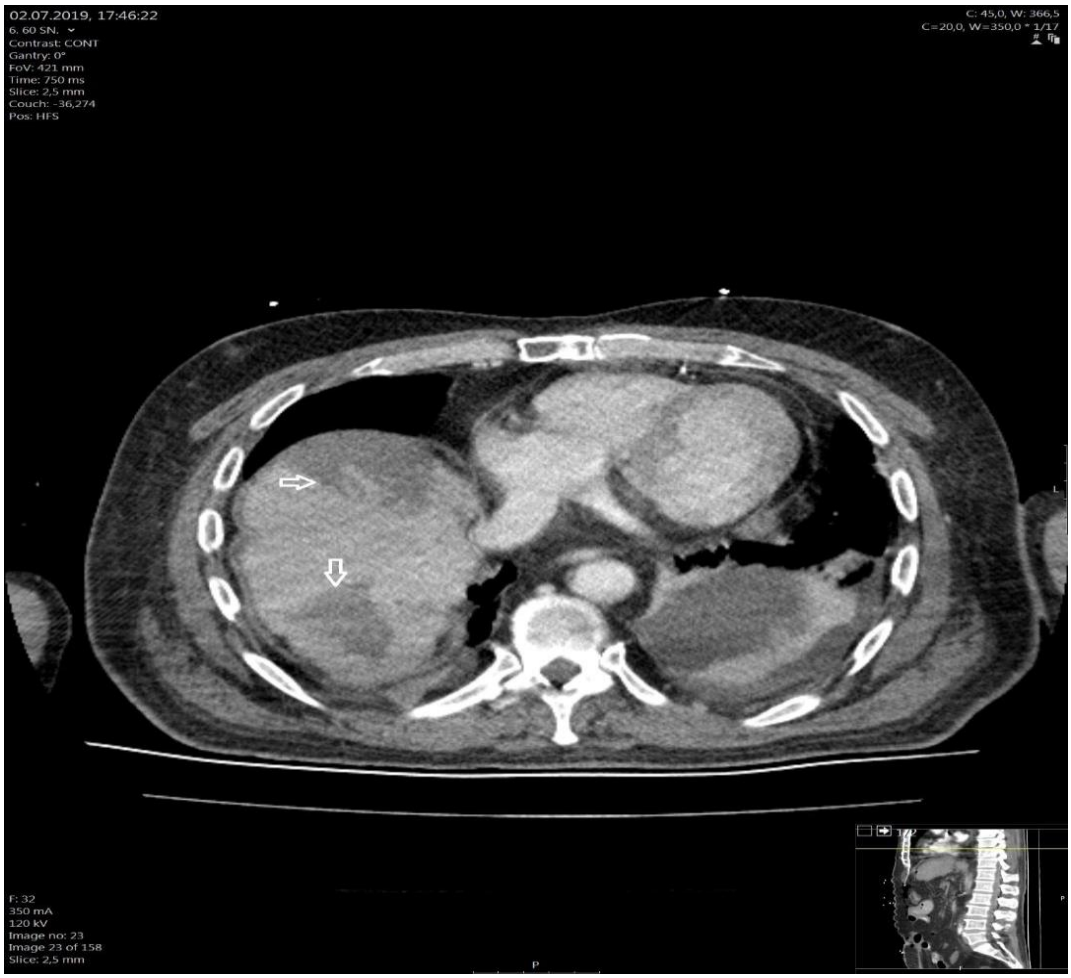

Figure 3. Contrast-enhanced axial multi-slice computed tomography shows focal, patchy, irregularly demarcated hypodense non-enhancing areas of parenchymal necrosis in both lobes of the liver (white arrows).

Laparotomy was performed on the postoperative 5th day. There was a leak on the duodenal stump. Stump repair, tube duodenostomy and feeding geogenostomy procedures were performed. The patient died on the 6th postoperative day due to multiple organ failure.

Discussion

Celiac artery occlusion is a rare condition. Case reports of celiac occlusion with superior mesenteric artery occlusion have been reported. The number of cases with isolated obstruction is extremely small. The disease results in serious mortality and morbidity.

Acute pancreatitis, malignancies and surgical trauma reported in cases reported in the literature (3,4). Kumaran et al. presented a case of severe acute pancreatitis complicated by complete thrombosis of the celiac artery with infarction in the stomach and liver developing after acute pancreatitis (4). Serc et al. presented a case of a 59-year-old patient with sigmoid colon adenocarcinoma and hypercoagulation with a large thrombus including suprarenal aorta, celiac artery and superior mesenteric artery. The patient underwent emergency laparotomy. In laparotomy, visceral organs ischemia was present (5).

Celiac artery trunk thrombosis affects the stomach, liver and spleen. The liver does not have significant clinical sequelae except regional area necrosis due to its double blood supply and better collateral flow. In addition, full recovery can be expected even in the case of large liver infarction after thrombosis (6). In our case, during the first laparotomy, ischemia was

only present in a partial area of the left lobe.

Stomach, is much less rare to be affected because it has a rich blood supply from the branches of the celiac axis and collaterals of the upper mesenteric artery. However, perigastric arterial thrombosis can cause gastric infarction and perforation and can cause death if surgical intervention is not performed. Since the celiac artery provides a part of the distal esophagus and proximal duodenum, esophageal and duodenal stump ischemia and risk of leakage are high (7) . In our case, ischemia necrosis and perforated areas were present in all layers of the anterior stomach and there was widespread peritonitis due to perforation. On the posterior face, there was no ischemia and it appeared to be safe. Splenic infarct has been reported as a rare condition caused by celiac artery thrombosis. An uncomplicated splenic infarction can be safely treated with medical treatment, but early splenectomy is required when complications of infarct, including abscess and rupture, occur (8). In our case, splenectomy was performed due to the presence of abscess foci in the spleen which is severely fibrotic and ischemic.

Occlusion of the celiac artery is a rare condition that is mortal after the last organ injury. Early diagnosis can be life-saving. If there are predisposing factors in acute abdomen, we think that clinician should keep in mind.

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Authors' contributions: Planned the study: MY; Design of the study: MY; Acquisition of data for the study: AK, MY; Drafted the article: MY, AK; Revising it critically for important intellectual content and Final approval of the version to be published: All authors.

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