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Case report
Olgu sunumu

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Possible cause underlying gastric necrosis and perforation: Celiac artery thrombosis

Gastrik nekroz ve perforasyonda olasi sebep: Çölyak arteri trombozu

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Abstract

In this article, we are sharing a case of a 76-year-old woman with known hypertension, atrial fibrillation, diabetes mellitus, coronary artery disease, who is presenting with stomach necrosis and perforation possibly due to celiac artery thrombosis after newly developed abdominal pain and bloody vomiting. In our case, emergency surgery was planned and the patient refused the operation and was lost at 48 hours of clinical follow-up. We aimed to discuss the etiology of celiac artery thrombosis, briefly. We believe that necrosis and perforation of the stomach due to celiac artery thrombosis deserves to be shared because it is a rare and difficult case to manage.

Keywords: Gastric necrosis, Celiac artery, Thrombosis

Öz

Bu yazıda bilinen hipertansiyon, atriyal fibrilasyon, diyabet, koroner arter hastalığı olan 76 yaşında bir kadın hastada yeni gelişen karın ağrısı ve kanlı kusma sonrasında olası çölyak arter trombozuna bağlı mide nekrozu ve perforasyonu olgusunu paylaşıyoruz. Olgumuzda acil cerrahi planlandı ancak hasta operasyonu reddetti ve 48 saatlik klinik izlemde yaşamı sona erdi. Çölyak arter trombozu etyolojisini kısaca tartışmayı amaçladık. Çölyak arter trombozuna bağlı mide nekrozu nadir görülmesinin yanında tanı konulması zor bir klinik durum olduğu için paylaşmaya değer bulduk.

Anahtar kelimeler: Gastrik nekroz, Çölyak arter, Tromboz

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Introduction

Celiac artery thrombosis is a rare clinical condition and it can be seen due to advanced age, atherosclerosis, connective tissue diseases, coagulation disorders, pancreatitis, surgical trauma, congenital anomalies. Celiac artery thrombosis is an urgent condition requiring immediate diagnosis, treatment and urgent revascularization if necessary. Delay in diagnosis can lead to impaired perfusion in organs such as the stomach, liver, pancreas and spleen. On the other hand, celiac artery thrombosis usually occurs on the basis of atherosclerosis and cardiovascular diseases. Population studies have shown a prevalence of 1% to and 12.5% and 1% to 24% for celiac artery occlusion and celiac axis stenosis, respectively [1]. Despite significant improvements in diagnosis and treatment, hospital mortality was reported as 59-93%. Successful treatment depends restoring blood circulation of the affected tissue, intervention with surgical resection if necessary, and close monitoring in intensive care unit [2].

In this article, we are sharing a case of a 76-year-old woman with known hypertension, diabetes mellitus, atrial fibrillation, coronary artery disease, who is presenting with stomach necrosis and perforation possibly due to celiac artery thrombosis after newly developed abdominal pain and bloody vomiting. In our case, emergency surgery was planned and the patient refused the operation and was lost at 48 hours of clinical follow-up. We aimed to discuss the etiology of celiac artery thrombosis.

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Case Presentation

A 76-year-old lady was admitted to our clinic with severe abdominal pain, bloody vomiting and impairment in general condition. In the medical history of the patient, hypertension, diabetes mellitus, hyperlipidemia, atrial fibrillation, congestive heart failure and coronary artery disease were noted. In the detailed anamnesis of the case, there were complaints of abdominal pain and weight loss that started after the meals. In the physical examination of the patient; The overall condition was poor, she was dyspneic, tachycardic, and the blood pressure was 90/55 mm / Hg, pulse 118 / min, temperature 37.1 ° C, oxygen saturation 92% and respiratory rate was 24 / min. In the abdominal examination, distention was detected, bowel sounds were found to be reduced, and widespread tenderness was present in all quadrants with palpation. Melena was detected on rectal examination. At the base of the left lung, respiratory sounds were found to be decreased. Tachycardia was present in the cardiovascular system examination. Peripheral arterial pulses were taken and there was widespread edema in both legs. The laboratory values were as follows: Hemoglobin: 7,2 g/dl, WBC: 12000/mm3, platelet: 375000/mm3, AST:384 U/L, ALT:275 U/L , LDH:712 U/L, sodium: 132 mEq/l, potassium: 3,4mEq / l, calcium: 7.9mg / dl, urea: 47mg / dl, creatinine: 1,6 mg/dl. Arterial blood gas examination revealed pH: 7,32 mm Hg, Pa02: 58 mm Hg, oxygen saturation: 92%, PaCO2: 40 mm Hg. Electrocardiography was compatible with atrial fibrillation. Hemoglobin decline occurred in the patient who had vomiting in bloody bright red color. Nasogastric tube lavage revealed large blood clots with no bright red blood present. Endoscopic examination of the upper gastrointestinal tract revealed that spontaneous hemorrhages and necrotic areas extending from the stomach corpus proximal to the antrum were seen (Figure 1-2).

Figure 1: Endoscopic view of necrotic and spontaneous hemorrhagic areas in stomach.

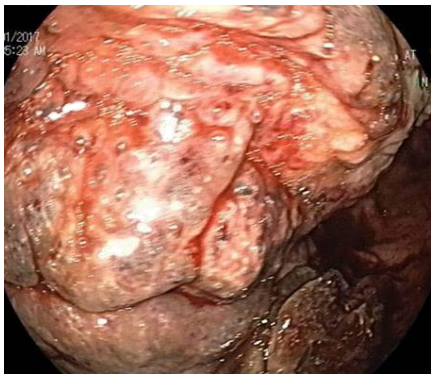

Figure 2: Endoscopic view of necrotic areas in stomach

Abdominal computerized tomography angiography taken to describe the etiology of necrosis detected in endoscopic imaging showed that a filling defect compatible with celiac truncus thrombus and free air density consistent with perforation in the posterior part of the stomach and medial to the spleen (Figure 3). In the patient, considering the stomach necrosis and perforation due to celiac artery thrombosis, the patient's oral intake was stopped. Surgical operation was planned for the patient who underwent erythrocyte and fluid replacement for hemodynamic stabilization for hemorrhage and was monitored under intensive care conditions. Surgical operation was not accepted by patient and relatives. In follow-up, respiratory distress and deep hypoxia developed, generalized worsening of the patient's need for invasive mechanical ventilation and patient was intubated. Cardiac arrest developed within 48 hours of intensive care hospitalization and did not respond to resuscitation and lost his life.

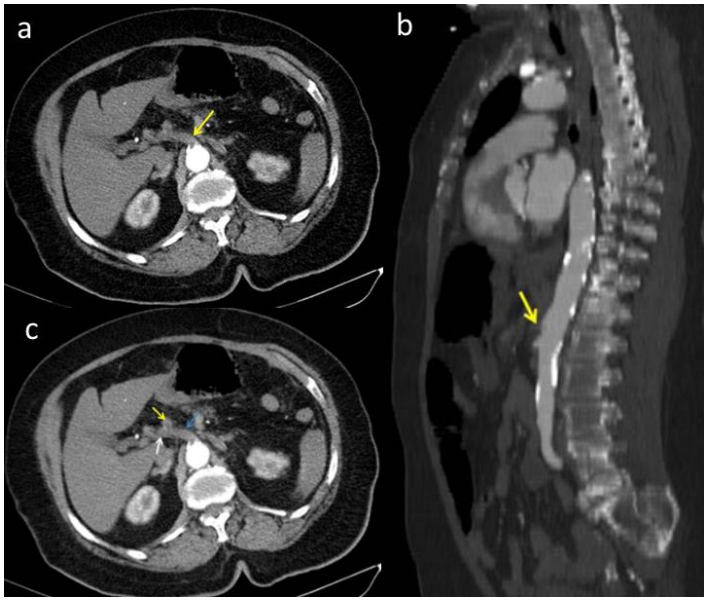

Figure 3: a:Computed tomography angiography- Axial view. b: Sagittal reformat view. c: Axial view, yellow arrow: splenic artery white arrow: common hepatic artery blue arrow: celiac truncus

Discussion

Gastric necrosis is a rare clinical condition because the rich blood supply and widespread submucosal vascular network of the stomach [3]. On the other hand, gastric necrosis may be a life-threatening condition due to increased perforation risk [4]. Its etiology includes cardiovascular disease, hypercoagulable state, arterial thrombosis and embolism, hemodynamic compromise, hypoxemia, alcohol ingestion, corrosive substance intake, gastric outlet obstruction, gastric herniation, massive gastric dilatation, volvulus, previous gastric surgery, bulimia, trauma and infection [4-7]. Based on the information gleaned from the patient's evaluation, the most likely diagnosis is stomach necrosis and perforation due to celiac artery thrombosis. Abdominal tomography of our case; The celiac artery had a thrombotic appearance from the abdominal aortic outlet, so gastric necrosis was thought to be due to underlying celiac thrombosis. The celiac artery is a large artery that is vertically separated from the anterior aspect of the aorta at the level of the T12-L1 vertebra. Three major arteries, the hepatic artery, the left

gastric artery, and the splenic artery, pass through the diaphragmatic crura. The ischemic event of these regions is rare due to the fact that they are separated by a vertical angle from the aorta and anastomoses between the branches [8]. Celiac artery thrombosis is a rare cause of acute abdomen and has a high mortality rate if diagnosis and treatment are delayed. The main causes of celiac artery thrombosis include atherosclerosis, congestive heart failure, past myocardial infarction, advanced age, malignancies, collagen tissue diseases, coagulation disorders [2]. Celiac artery thrombosis is typically associated with a preexisting stenosis and is at the origin of the arteries. Typically, over the years, this stenosis progressively increases and reaches a critical level, resulting in sudden thrombosis during a low-flow period. Acute celiac artery may occur with non-spesific symptoms such as severe abdominal pain that are not specific to any disease. Ileus, peritonitis and gastrointestinal bleeding (as in our case), may mask initial symptoms [9]. Patients usually have extensive atherosclerosis, coronary, cerebrovascular, peripheral arterial insufficiency before this clinical picture [10]. In our present case, there were many risk factors predisposing to thrombosis such as advanced age, previous myocardial infarction, diabetes mellitus, and atrial fibrillation. 20-30% of patients with acute thrombosis may have symptoms of chronic mesenteric ischemia. In the history of the case, the presence of complaints such as abdominal pain, weight loss after meals support the background of chronic ischemia. Keskin and colleagues reported a case of celiac artery thrombosis in a 44-year-old female patient with essential thrombocytosis and smoking risk factors [11]. Serck LC et al reported a case of celiac truncus and superiorial mesenteric ischemia in a 59-year-old female patient with sigmoid colon carcinoma [12]. Kanth R et al reported a case of celiac artery thrombosis due to protein C deficiency in a 33 years old male patient [13]. Celiac artery thrombosis may develop as a local complication of acute pancreatitis as well as due to atherosclerosis, malignancies, coagulation disorders. Kumaran et al, reported total gastric necrosis associated with celiac artery thrombosis in a patient with acute pancreatitis [14]. Arul et al reported a case of celiac axis thrombosis and splenic infarction in a 14-year-old girl using oral contraceptive pill [15]. If acute celiac artery thrombosis is suspected, emergency angiographic imaging and revascularization may be life-saving if needed. Although endovascular balloon angioplasty and surgical bypass are available, endovascular interventions have become popular recently due to low complication rates [11]. Conclusion Although acute celiac artery thrombosis is very rare, in cases of high clinical suspicion, it should be diagnosed by emergency angiographic examination and rapid revascularization should be provided in clinically appropriate cases. Delays in diagnosis have a high mortality and morbidity rate. Celiac artery thrombosis should be remembered in patients with advanced cardiovascular risk factors who present with severe abdominal pain, gastrointestinal bleeding and acute abdomen clinic. In patients with celiac artery thrombosis, thrombophilic states, cardiovascular disorders, vasculopathy, and detailed drug history that may cause thrombosis tendency should be questioned.

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