

Spontaneous Perforation of Jejunal Ulcer

Spontan Jejunal Ülser Perforasyonu

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ABSTRACT

Spontaneous perforation of the nonspecific small bowel ulcer is a rarely seen condition that causes acute abdomen and mostly diagnosed perioperatively. A 72-year old female patient was admitted to emergency service with abdominal pain. Her physical examination was compatible with acute abdomen and peritonitis. Abdomen computerized tomography showed free air under the right diaphragm. She was operated with a presumptive diagnosis of gastrointestinal perforation. An isolated jejunal perforation on the opposite side of the mesentery was found perioperatively. A biopsy was taken, and the perforation was repaired with primary sutures. The patient died in the intensive care unit due to pulmonary complications on the fifth postoperative day. Although the biopsy was taken from the superficial tissue, it was consistent with an ulcer. Nonspecific jejunal ulcer perforations can be life-threatening because of the delayed diagnosis. Especially in elderly patients, it should be kept in mind as a cause of acute abdomen.

Keywords: Jejunal ulcer; acute abdomen; perforation.

ÖZ

Non spesifik spontan ince bağırsak ülser perforasyonu akut karına neden olan ve çoğunlukla perioperatif olarak tanı alan, nadir görülen bir durumdur. Yetmiş iki yaşında kadın hasta karın ağrısı yakınması ile acil servise başvurdu. Yapılan fizik muayenesi akut batın ve peritonit ile uyumluydu. Çekilen abdomen bilgisayarlı tomografide sağ diyafram altında serbest hava saptandı. Hasta gastrointestinal perforasyon ön tanısı ile operasyona alındı. Operasyon sırasında jejunum ansında antimezenterik yüzde perforasyon alanı saptandı. Bu alandan biyopsi alındı ve perforasyon primer suturasyon ile onarıldı. Hasta pulmoner komplikasyonlar nedeniyle postoperatif beşinci gün yoğun bakım ünitesinde exitus oldu. Alınan biyopsi yüzeysel olmakla birlikte ülser tanısını desteklemekteydi. Non spesifik jejunal ülser perforasyonları gecikmiş tanı nedeniyle hayatı tehdit edici olabilir. Özellikle ileri yaş hastalarda bir akut karın nedeni olarak akılda tutulmalıdır.

Anahtar kelimeler: Jejunal ülser; akut karın; perforasyon.

INTRODUCTION

Ulcerative perforations are most commonly occur in the stomach and duodenum. Jejunal perforation due to the primary ulcer is a sporadic condition (1,2). The disease has unknown etiology (1). Although the etiology is unclear, trauma, jejunal diverticulitis, malignancy, arteriosclerosis, drugs, infections, advanced age, superior mesenteric arterial occlusion, and the nonspecific ulcers are associated with the disease (2,3). Nonspecific small bowel ulcers are rare and can be life-threatening due to delayed diagnosis, and at the time of admission, patients might have a perforation as in our case.

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Received / Geliş Tarihi : 23.08.2019

Accepted / Kabul Tarihi : 24.01.2020

Available Online /

Çevrimiçi Yayın Tarihi : 25.04.2020

Presented as a poster at 12th National Trauma and Emergency Surgery Congress (October 09-13, 2019, Antalya, Turkey).

CASE REPORT

A 72-year old female patient was admitted to the emergency department with abdominal pain, vomiting, and nausea persisting for two days. She had a medical history of hypertension and chronic obstructive pulmonary disease but no history of operation. She also mentioned chronic using of diclofenac sodium for osteoarthritis. The patient's temperature was 38.3°C, blood pressure was 78/56 mm Hg, pulse rate was 101/min, and respiratory rate was 19/min. On physical examination, there were signs of peritoneal irritation in all quadrants of the abdomen with rebound tenderness. Laboratory data were as follows; white blood cell count was 3600/mm³, platelet count was decreased, and the value was 114000/mm³, liver function tests were increased (AST: 263, ALT: 144) and kidney functions tests and high lactate level which was counted at 3.6. Abdomen computerized tomography showed massive intraabdominal free gas and perihepatic fluid (Figure 1). The patient was diagnosed with perforation, and immediate surgical exploration was performed based on the diagnosis of the acute abdomen. Due to patients' impaired general condition and comorbidities, inotropic agents were initiated perioperatively. During explorative laparotomy, purulent fluid was observed in all four quadrants of the abdomen and pelvis. There were no perforations observed in the stomach, duodenum, ileum, or colon, and also no ischemia finding, which indicates mesenteric vascular disease. An isolated jejunal perforation with a diameter of 5 mm on the opposite side of the mesentery, which was located 70 cm distal of the ligament of Treitz, was detected (Figure 2). The jejunal ulcer was macroscopically similar to a perforated peptic ulcer. The perforated area was repaired with primary sutures due to the patients' impaired general condition and sepsis clinic. Postoperatively the patient was followed up with the support of inotropic drugs and mechanical ventilator in the intensive care unit. On the fifth postoperative day, the patient had sudden respiratory arrest secondary to pulmonary embolism and died in the intensive care unit. Written informed consent was obtained from the patient before the treatment, surgery, and publication.

DISCUSSION

Spontaneous perforation of the small intestine is a rare condition with an incidence of 1/350000 (1,2). In the small intestines, perforation due to ulceration mostly occurs in the duodenum, followed by the ileum and jejunum (1,2). Spontaneous perforation of the small intestine requires immediate diagnosis and surgical treatment. It has various underlying etiologies such as jejunal diverticulitis, Crohn's disease, celiac disease, advanced age, arteriosclerosis, superior mesenteric arterial occlusion, malignancy, advanced age, radiation, focal gastric mucous membrane ectopy, and jejunal ulceration in case of gastroenterostomy partial gastric resections with a very short efferent loop to the jejunojejunostomy, and a nonspecific primary ulcers (1,3). Also, Chlorothiazide, antineoplastics and immunosuppressive, enteric-coated potassium chloride, and nonsteroidal anti-inflammatory drugs (NSAID) have been implicated in the etiology of spontaneous perforation of the small intestine (2,4). In addition, cytomegalovirus, human immunodeficiency virus, salmonella, tuberculosis, *Tropheryma whipplei*, histoplasmosis, *Entamoeba histolytica*, and viral, bacterial, parasitic, fungal intestinal infections



Figure 1. Abdomen computerized tomography showed; amount of free air in abdomen which was showed by black arrows and perihepatic fluid which was marked with yellow arrow

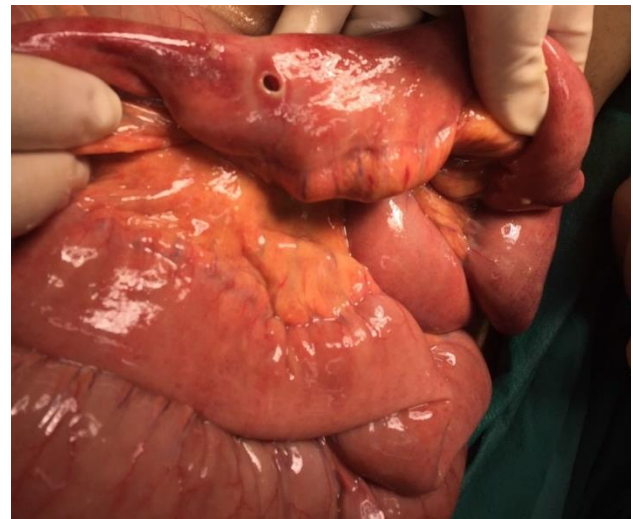


Figure 2. Perioperative finding; a jejunal perforation was detected 70 cm distal to the ligament of Treitz

have been shown to play a role in the etiology (3,4). Among these etiologic factors, nonspecific jejunal ulcer (NJU) is extremely rare. In our case, the patient had no history of trauma, surgery, radiation, or antineoplastic drugs. The inflammatory diseases were excluded due to the unremarkable results of the colonoscopy, which was performed one year ago for anemia. Gastroscopy was compatible with *Helicobacter pylori* negative antral gastritis. Infectious causes, such as CMV IgM, HIV, and Salmonella, were also tested since the patient had a sudden clinical progression and death, and all were reported as negative. In our presented case for the etiology of JUP, the patient had the risk factors of advanced age and diclofenac sodium use, as mentioned by Matsumoto et al. (5) and Maiden L. (6). Maiden L. (6) supported the intestinal mucosal damage in healthy volunteers by using NSAID via capsule endoscopy. The study shows that not only the long term of use of NSAID but also 14 days of NSAID use

could cause mucosal breaks (29%). In addition 3% of the sample had free luminal blood and 2% had strictures.

The symptoms and signs of jejunal ulcers are nonspecific, such as abdominal pain, nausea, constipation, or diarrhea. The disease generally becomes symptomatic with the complications of an ulcer such as perforation, peritonitis, intraabdominal abscess, and intestinal obstruction. Patients with jejunal perforation due to NJU generally are admitted to the emergency service with acute onset abdominal pain with signs of peritonitis, nausea, fever, and vomiting, as in our case.

Laboratory tests for the jejunal ulcer perforation are not disease-specific. In the radiological examination of complicated NJU, chest X-Ray can show sub-diaphragmatic free air. Although the imaging studies, especially computerized tomography, can be helpful, a perforated jejunal ulcer is mostly diagnosed perioperatively, as in our case.

Most of the studies and case reports suggest that surgical treatment for complicated NJU is the first choice for treatment. Our case had needed an urgent surgical intervention and primary suture repair can be a first quick treatment choice. Primary suture repair, resection, and anastomosis or an ostomy may also be performed depending on the intraoperative findings and general condition of the patient via open surgery or laparoscopic methods (1,2).

In conclusion, perforation of NJU which can be life-threatening due to the delayed diagnosis must be kept in mind as a cause of acute abdomen. After the initial diagnostic evaluation, an urgent surgical intervention must be performed, especially in elderly patients with a history of NSAID use.

Informed Consent: Written informed consent was obtained from the patient for treatment, surgery, and publication at the time of hospital admission.

Conflict of Interest: All the authors declare no conflict of interest.

Financial Disclosure: The authors declared that this study had received no financial support.

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