

Synchronous perforation of sigmoid diverticula: a rare presentation

Sigmoid divertiküllerin eşzamanlı delinmesi: Nadir bir olgu sunumu

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Diverticular disease affects more than 50% of the population over the age of 60 years in the west and becomes even more common as the population ages. Diverticulitis is one of the complications of diverticular disease and can culminate into colonic perforation. Though perforated diverticular disease is not uncommon, synchronous colonic perforations in diverticulitis is rare. Our patient was admitted with acute abdomen and exploratory laparotomy revealed two side-by-side perforations of the sigmoid colon. A Hartmann's procedure was performed. Macro- and microscopic evaluation confirmed the presence of two perforated sigmoid diverticula due to diverticulitis. Simultaneous perforation of two abreast sigmoid diverticula is uncommon; thus, a cautious surgeon should always take into account such a probable diagnosis.

Key Words: Synchronous perforation, sigmoid diverticula.

Divertiküler hastalık Batı'da 60 yaş üzerindeki nüfusun %50'den fazlasını etkiler ve nüfus yaşlandıkça daha sık görülür. Divertiküler hastalığın komplikasyonlarından birisi divertikülitir ve kolon perforasyonu ile sonuçlanabilir. Perfore (delinmiş) divertiküler hastalık seyrek olmamasına rağmen, divertikülitte eşzamanlı kolon delinmeleri seyrekir. Hasta akut karın tablosunda başvurdu ve tanısız laparotomide sigmoid kolonda iki adet delinme saptandı. Hartmann girişimi uygulandı. Makro ve mikroskopik değerlendirme divertikülitte bağlı, iki perfore sigmoid divertikülün varlığını teyit etti. Yanyana aynı hizada iki sigmoid divertikülün aynı zamanlı perforasyonu seyrekir bu nedenle ihtiyatlı bir cerrah daima, böylesi muhtemel tanıları akılda bulundurmalıdır.

Anahtar Sözcükler: Sigmoid perforasyon; sigmoid divertikül.

Diverticular disease is becoming more common in western countries.^[1] This is thought to be due to a lack in dietary fiber intake, disordered colonic motility, and altered colonic wall resistance.^[2] Complications of diverticular disease such as hemorrhage, diverticulitis, peri-diverticular abscess, fistula, and perforation are well recognized.^[1] Free perforation of two adjacent diverticula is uncommon.

We present what to our knowledge is the first reported case of synchronous sigmoid diverticular perforations due to diverticulitis and emphasize keeping in mind this rare feature of a common disease.

CASE REPORT

A 71-year-old woman was admitted to the accident and emergency department with nausea, vomit-

ing, diarrhea and abdominal pain for five days. The pain was constant and located primarily in the left lower quadrant with radiation to the back. She had suffered from a similar episode 12 months before that resolved with antibiotics, and a diagnosis of diverticulitis was made at that time.

During this admission, there was no history of lower gastrointestinal hemorrhage. On examination, her temperature was 38°C and pulse rate was 110 beats per minute. She had rigidity and rebound tenderness in her left iliac fossa. Leukocyte count was 25,000 per cubic millimeter of blood and abdominal X-ray showed dilated small bowel loops. Computerized tomography (CT) scan revealed a diverticular abscess with free fluid in the peritoneal cavity.

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The patient was taken to the operating room. A diverticular abscess with 100 ml of pus was found around the sigmoid colon. Macroscopically, there were two perforations in the sigmoid colon related to gross sigmoid diverticular disease.

A sigmoid colectomy and colostomy was fashioned (Hartmann's procedure). Histopathology of the specimen confirmed two synchronous perforations (4 cm apart) of sigmoid diverticula due to diverticulitis (Figs. 1a, b).

The patient was discharged on the tenth postoperative day and has remained well.

DISCUSSION

The incidence of diverticulosis increases with age, being present in more than half of the patients 80 years of age and older.^[3] Urbanization, genetic factors, altered colonic motility, reduced fiber intake, and undermined colonic wall resistance have all been implicated in the pathogenesis of diverticular disease.^[2] Diverticulitis occurs after inflammation of a colonic diverticulum.^[3] The clinical picture includes abdominal pain, vomiting, diarrhea, weight loss, constipation, fever, rigors and sometimes an abdominal mass.^[4] The diagnostic modalities include water-soluble contrast enema, ultrasound and CT scan. Barium enema and colonoscopy are usually discouraged until the inflammation has settled.^[5]

The sigmoid colon is the part of the large intestine most commonly involved in diverticular disease due to its anatomical properties. True diverticula containing all layers of the colonic wall are rare. The majority of diverticula found are pseudodiverticula. They are herniations of mucosa and submucosa through clefts in the colonic muscle layers as a result of morphologic changes of the colonic wall and an imbalance between the intraluminal pressure and the pressure in the abdominal cavity. Micro-perforations of the tip of the diverticula are an important factor leading to inflammation and symptomatic disease.^[6]

It is also suggested that hard fecal matter plugs the opening of the diverticula and leads to bacterial overgrowth in the outpouchings. Diverticula are usually thin-walled with compromised blood supply, so

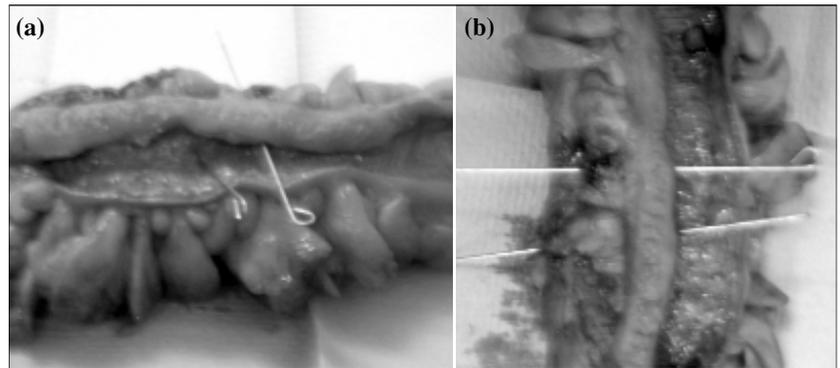


Fig. 1. (a) Open lumen of the sigmoid colon with pointers passing through the two perforations. (b) Resected sigmoid colon with external indurated area around the two perforation sites.

an overwhelming infection leads to perforation of the colon.

There is only one such case in PubMed reporting synchronous perforation of cecal and sigmoid diverticula.^[7] The finding of synchronous perforations is quite important in our case. We suggest that surgeons should be alert to a synchronous perforation of the large bowel while operating for perforated diverticular disease.

In conclusion, synchronous perforations in diverticula of the large bowel are rare and two adjacent sigmoid diverticular perforations have not been published in the medical literature to date. A high index of suspicion coupled with a thorough abdominal exploration is suggested while operating on patients with perforated diverticular disease.

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