



Cecal Volvulus as a Cause of Acute Abdomen: A Report of Two Distinct Cases

Akut Karın Nedeni Olarak Çekal Volvulus: İki Farklı Olgu Sunumu

✉ **Mustafa Göksu**¹, ✉ **Sabri Özdaş**², ✉ **Mehmet Sertkaya**²

¹Adıyaman University Faculty of Medicine, Department of General Surgery, Adıyaman, Turkey

²Adıyaman University, Training and Research Hospital, Clinic of General Surgery, Adıyaman, Turkey

ABSTRACT

Cecal volvulus is one of the rare causes of acute abdominal pain that is life-threatening and requires urgent treatment. Herein, we present two cases of cecal volvulus with differing features. The first case was a 32-year-old female patient who was diagnosed with cecal volvulus 2 days after surgery for ectopic pregnancy. The second case was a 58-year-old female patient who was referred to our hospital with a diagnosis of cecal volvulus caused by a giant lipoma. Right hemicolectomy was performed in the first case and right hemicolectomy with partial ileal resection in the second case, and both patients were discharged with no complications. Radiography and clinical suspicion are extremely helpful in the diagnosis of cecal volvulus. Computed tomography should be performed when necessary. The primary treatment is surgery, though this may change depending on the situation.

Keywords: Cecal volvulus, acute abdomen, right hemicolectomy

ÖZ

Çekal volvulus, hayatı tehdit eden ve acil tedavi gerektiren akut karın ağrısının nadir nedenlerinden biridir. Bu yazımızda, farklı özelliklere sahip iki çekal volvulus olgusu sunuyoruz. İlk olgu ektopik gebelik nedeniyle ameliyattan iki gün sonra çekal volvulus tanısı alan 32 yaşında kadın hastaydı. İkinci olgu ise hastanemize dev bir lipomun neden olduğu çekal volvulus tanısı ile sevkedilen 58 yaşında kadın hastaydı. Birinci hastaya sağ hemikolektomi ve ikinci hastaya kısmi ileal rezeksiyonlu sağ hemikolektomi uygulandı ve her iki hasta da sorunsuz olarak taburcu edildi. Çekal volvulus tanısında düz radyografi ve klinik şüphe son derece yardımcıdır. Bilgisayarlı tomografi gerektiğinde yapılmalıdır. En önemli tedavi, duruma göre değişmekle birlikte cerrahidir.

Anahtar Kelimeler: Çekal volvulus, akut karın, sağ hemikolektomi

Introduction

Cecal volvulus is one of the rare causes of acute abdominal pain that is life threatening and requiring urgent treatment. Cecal volvulus is a folding of the terminal ileum and descending colon with its mesentery on its own axis. Cecal volvulus is the cause of 1-1.5% of all intestinal obstructions and constitutes 25-40% of all volvulus.¹ Due to its non-specificity with clinical manifestations and symptoms, it causes difficulties and delays in the treatment of cecal volvulus. Today, the most important treatment is surgical intervention. In this article, we aim to present two different cases of cecal volvulus with acute abdomen.

Case Reports

Case 1

A 32 year female patient who was operated on due to ectopic pregnancy in the obstetric clinic was consulted to our clinic due to abdominal pain on the 2nd postoperative day. She had complaints of colicky abdominal pain, vomiting and gas-gaita failure. In the past history, there was no feature except ectopic pregnancy story. On physical examination, there was tenderness in his entire abdomen. Asymmetric distension was present on the right side of the abdomen. There was no peritoneal irritation. Hemoglobin was 8.65 g/dL, white blood cell (WBC) was 12.7 K/uL, albumin was 2.7 g/dL and creatine kinase was 3484 U/L in the laboratory



Address for Correspondence/Yazışma Adresi: Mehmet Sertkaya MD,
Adıyaman University, Training and Research Hospital, Clinic of General Surgery, Adıyaman, Turkey
Phone: +90 505 221 43 34 E-mail: drsertkaya@gmail.com ORCID ID: orcid.org/0000-0001-8966-0619
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findings. Direct abdominal X-ray showed abdominal dilatation and air fluid level on the right upper abdomen (Figure 1). Abdominal computed tomography (CT) revealed excessive dilatation and air fluid levels in the right-colon and in the cecum as closed loop (Figures 2, 3). The patient underwent laparotomy with intestinal obstruction diagnosis. At exploration, ischemic changes and advanced dilatation were detected in the cecum secondary to volvulus. A right hemicolectomy and side-by-side transversostomy were performed (Figure 4). The patient was discharged uncomplicated on postoperative day 7. The patient's pathology was reported as ischemic findings.



Figure 1. Plain radiograph shows dilated colon with gas and air fluid level at the upper right quadrant

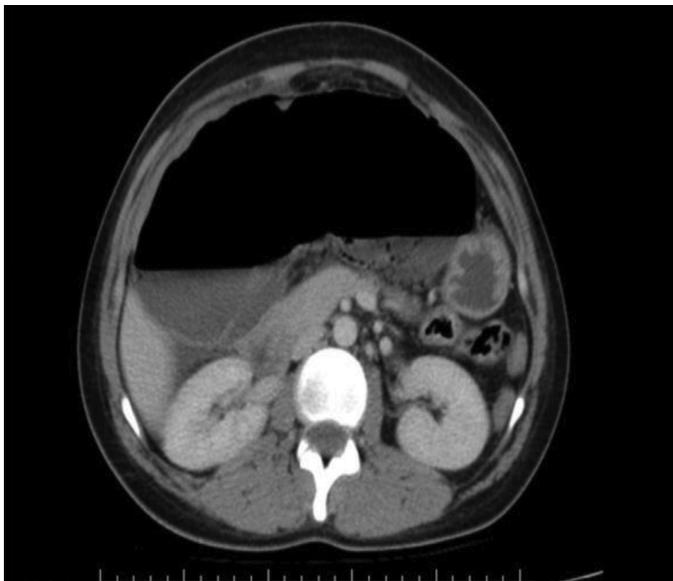


Figure 2. Computed tomography image showing excessive dilatation and air fluid levels in the colon segment

Case 2

A 58-year-old overweight female patient was referred to emergency department with acute abdomen diagnosis from the district hospital. CT at the district hospital revealed suspicious mass in the abdomen and cecal volvulus findings (Figure 5). The patient's complaints included difficulty in passing gas and stool for 2 days, distension, nausea and abdominal pain. Four months ago, she had been operated on the left hip due to femur neck fracture and had been mobilized with support, but had no abdominal surgery. On physical examination, there was a massive mass on the right side of the abdomen with excessive distension, rebound and defensive palpation. The rectum was empty on the rectal digital examination. WBC was 18000 K/uL



Figure 3. Computed tomography image of the cecum and right colon as a closed loop



Figure 4. Operation specimen containing right hemicolectomy and partial ileal resection material

in the laboratory values. We operated on the patient in urgent conditions to prevent further deterioration of the patient's clinical status. Operative findings revealed 500-600 cc of serous fluid spread in the abdomen, necrotic changes and serosal opening in the cecum, and a giant lipoma with a size of 20-25 cm in diameter completely obstructing the lumen of the colon (Figure 6). In addition, there was edema and partial necrosis in the last 50 cm of the terminal ileum. A right hemicolectomy and 60 cm terminal ileum resection and ileotransversostomy were performed (Figure 7). Postoperative 5th day regimen was started and 9th day she was discharged without any problems. Histopathologically, the mass was reported as lipoma and reported as necrotic findings in the cecum. Informed consent was obtained from the patients in this article.



Figure 5. Computed tomography scan for case 2; the mass evaluated as lipoma is observed in mesenchial fat tissue density

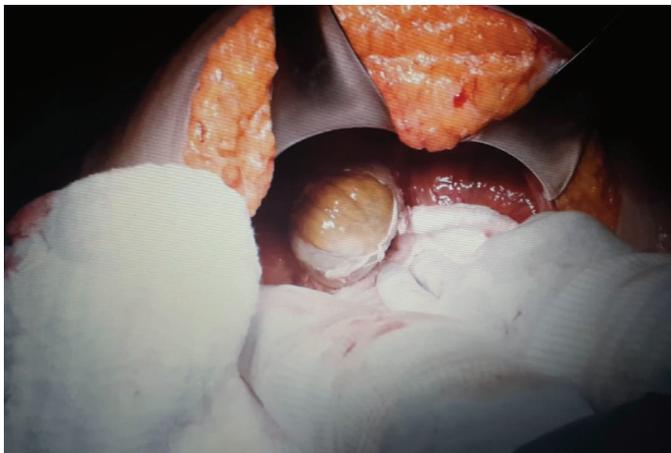


Figure 6. Cecal mass felt during surgery in case 2



Figure 7. The specimen removed at the end of the operation for case 2; right hemicolectomy

Discussion

Colonic volvulus is a condition requiring urgent surgery in which a segment of the colon causing obstruction and ischemic necrosis of the intestine folds around its own mesentery. It can be seen most commonly in the sigmoid colon, less frequently in the cecum, descending colon and transverse colon. Chronic constipation, various abdominal masses, previous abdominal surgery, abnormal mobilization of the cecum and paralytic ileus were reported as etiologic and predisposing factors.^{2,3} It has been determined that 23%-53% of patients with cecal volvulus have a history of previous surgery.¹ The release of the cecum in various abdominal surgeries is thought to be an important contributor to the formation of cecal volvulus. In our first case, there was a history of abdominal surgery due to ectopic pregnancy. The immediate postoperative symptom of the patient was interfered with postoperative pain, which caused a delay in the diagnosis. In our second case, a giant lipoma was the cause of cecal volvulus. The incidence of cecal volvulus is reported to be 2.8-7.1/1 million per year.^{4,5} In developed countries, cecal volvulus is more common between the ages of 50-65, but it has been reported in younger ages in far eastern countries.¹ These patients usually present with non-specific symptoms such as cramp-like abdominal pain, nausea-vomiting, abdominal distension and constipation.⁶ For this reason, there is a delay in the diagnosis. In our first case, the fact that the symptoms were primarily thought of as a result of past surgery period led to a delay in the diagnosis.

Although the abdominal radiographs of these patients can help the diagnosis in just 44-46% of the cases, our present radiograph has a specific image for cecal volvulus. In our case, dilatation and obstruction of the intestinal segment, but not gas at the distal colon with plain radiography, showed significant findings for cecal volvulus diagnosis. In order to investigate the cause of obstruction due to abdominal surgery 2 days ago and to exclude the possible complications of the operation, abdominal intravenous contrast-enhanced CT was applied to the patient. Performed abdominal CT revealed advanced dilatation of the cecum, free air and fluid in the abdominal cavity and normal width of terminal ileum. Cecal volvulus was diagnosed with present findings. In our second case, the patient was referred to our clinic because of a suspicious mass in the abdomen and cecal volvulus findings. The patient was urgently operated because of the presence of acute abdomen in the patient. In the current surgical perspective, surgical procedures in cecal volvulus are hemicolectomy, detorsion, cecopexy and cecostomy operations performed with open or laparoscopic methods.¹ We performed right hemicolectomy in our first case and right hemicolectomy with terminal ileum resection in our second case. In both of our patients, we did not encounter any problems postoperatively. Timely surgical treatment should be applied to cecal volvulus to avoid necrotic changes in the bowel and their possible complications. Abdominal radiographs can play a major role in early diagnosis. CT, however, should be added to exclude post-surgical complications, especially in patients undergoing surgery. Especially in patients undergoing

gynecologic surgery, cecal volvulus should be considered in constipation and abdominal pain in the postoperative period. In addition, excessive distension seen on one side of the abdomen should be thoughtful for cecal volvulus.

Ethics

Informed Consent: Informed consent was obtained from the patients in this article.

Peer-review: External and internal peer-reviewed.

Authorship Contributions

Concept: M.G., Design: M.Ş, Data Collection or Processing: M.G., S.Ö., Literature Search: M.G., S.Ö., Writing: M.G., M.S.

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