Sigmoid Volvulus Provoked by Severe Diarrhea

Sigmoid Volvulusu Provoke eden Şiddetli Diare

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ABSTRACT

Here, we presented two sigmoid volvulus cases both presented after severe diarrhea episodes. A 69-year-old male with the symptoms of severe diarrhea for 2.5 months presented with left colonic obstruction. Sigmoid volvulus was diagnosed with plain abdominal X-ray, computed tomography and colonoscopy confirmed the diagnosis. After a successful colonoscopic detorsion, the patient underwent elective laparoscopic colon surgery. The second case was a 50-year-old male with mental retardation who complaint of diarrhea for four days. After sudden interruption of diarrhea, the abdomen was begun to swell. Sigmoid volvulus was diagnosed when a coffee bean sign was seen on his plain abdomen X-ray. Detorsion was applied by colonoscopy. The patient was planned for elective surgery but his relatives refused. Sigmoid volvulus is generally accompanied with constipation, whereas in our cases, diarrhea was the essential symptom before sigmoid colon volvulus. So far there has been only one reported case. Our aim was to underline that sigmoid volvulus can be seen after diarrhea.

Key Words: Colorectal, intestinalobstruction, acute abdomen, endoscopy, colon, laparoscopy

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ÖZET

Burada, şiddetli daire episodları sonrasında her ikisinde de sigmoid volvulus gelişen hastaları sunduk. Şiddetli diare şikayeti 2.5 aydır süren 69 yaşındaki erkek hasta sol kolon obstrüksiyonu ile başvurdu. Direk abdominal grafide sigmoid volvulus tanısı kondu, bilgisayarlı tomografi ve kolonoskopi ile tanı doğrulandı. Başarılı kolonoskopikdetorsiyon sonrasında, hasta elektif laparoskopik cerrahiye alındı. İkinci vaka 50 yaşında mental retardasyon tanısı olan erkek hastanın, yaklaşık dört gündür ishal şikayeti mevcuttu. Diare aniden kesildikten sonra karında şişme başladı. Direk abdominal grafide kahve çekirdeği görünümü görülmesi üzerine sigmoid volvulus tanısı kondu. Kolonoskopik detorsiyon uygulandı. Elektif cerrahi planlandı fakat akrabaları cerrahiyi reddetti. Sigmoid volvulus genellikle konstipasyonla eşlik ederken, bizim olgularda sigmoid volvulustan önce başlıca semptom diarenin olmasıydı. Şu ana kadar tek vaka bildirildi. Bizim amacımız kronik sekretuar diareden sonra da sigmoid volvulus görülebileceğinin altını çizmekti.

Anahtar Sözcükler: kolorektal, barsak obstrüksiyonu,akutkarın,endoskopi, kolon,laparoskopi

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INTRODUCTION

Sigmoid volvulus is diagnosed clinically and radiologically. Abdominal pain (91%), distension (84%), nausea (72%), constipation (63%), sensitivity on abdominal examination (81%), absence of stool in the rectal examination (53%) and blood in rectal examination (19%) were the main symptoms and signs of sigmoid volvulus (1). In our cases, diarrhea was at the forefront symptom of the sigmoid volvulus. The purpose of this case report was to underline that sigmoid volvulus may be presented with diarrhea besides the usual symptoms.

CASE REPORT

Case 1

A 67-year-old male patient had admitted to another center with a complaint of persistent diarrhea for 15-20 times a day for 2.5 months. Stool cultures, fecal leukocytes, enteric pathogens, clostridium difficile toxins, parasites were found to be negative. The patient received symptomatic treatment but the diarrhea persisted. The diarrhea had stopped immediately and he had no stool output for two days and he admitted to our emergency unit. The patient had abdominal pain and distension. On physical examination, abdomen was asymmetric and distended in appearance without any sensitivity, rigidity or rebound tenderness. There was no stool or bleeding in rectal examination. There was no fever, his pulse and blood pressure were normal. Laboratory tests showed as white blood cells 11.200/mm^3, hemoglobin 14.7 g/dL, sodium 144 mmol/L, potassium 2.81 mmol/L and C-reactive protein (CRP) 1.42 mg/dl. Thyroid function tests and tumor markers were within normal limits. Partial colonic obstruction was considered, possibly due to a colonic cancer. Plain abdominal x-ray and abdominal computed tomography (CT) revealed a dilated sigmoid colon with a whirl sign that referred the sigmoid volvulus (Figure 1). Colonoscopy confirmed the sigmoid volvulus and colonoscopic detorsion was accomplished successfully. There was no mucosal ischemia. Three days after colonoscopic detortion, definitive colonic surgery was performed and the patient was discharged on the ninth day uneventfully. The patient signed the informed consent form prior to the surgery. Two years later, the patient had still diarrhea (5-7 per day) and using an antidiarrheic drug.

Case 2

A 50-year-old male with mental retardation complained of diarrhea for four days. He had a history of sigmoid volvulus 10 years ago. He had been treated by colonoscopic detorsion but his relatives had refused definitive surgery. Two days ago, the diarrhea suddenly stopped and the abdomen began to swell. Abdomen was asymmetric and distended. There was tenderness and defense, but no rebound. There was no stool or bleeding in rectal examination. Laboratory values demonstrated that white blood cells 13.700/mm^3, hemoglobin 9.3 g/dL, sodium 134 mmol/L, potassium 3.16 mmol/L and CRP 3.34 mg/dL. Plain abdominal X-ray showed a coffee bean sign that revealed the sigmoid volvulus. Colonoscopic detorsion was done successfully and no mucosal ischemia was observed. The patient signed the informed consent form prior to the therapy. There was no complaints of diarrhea after detorsion. Definitive surgery was planned but his relatives did not accept surgery.

DISCUSSION

Sigmoid volvulus, usually associated with constipation but here it has been shown that it can occur after chronic secretory diarrhea. Constipation episodes were not observed in our patients before sigmoid volvulus attacks. Diarrhea did not improve despite medical treatment and suddenly was interrupted by the development of sigmoid volvulus. The first patient was chronic secretory diarrhea and the second patient has acute diarrhea. But this acute diarrhea did not enough to exclude us from the diagnosis of sigmoid volvulus. We don't know the exact pathophysiology of developing sigmoid volvulus after a severe diarrhea. This may be due to increased peristatism of the elongated large bowel.

Intestinal obstruction cases with diarrhea have been reported in various diseases. In Crohn's disease, initial findings include massive secretory diarrhea and later intestinal obstruction (2). Familial secretory diarrhea syndromes (familial diarrhea syndrome caused by an activating GUCY2C mutation) are also seen in a similar clinical course (3). Fiskerstrand et al. reported that 32 members of the Norwegian family were affected by this mutation. Diarrhea was observed as the first finding and later it causes intestinal obstruction and esophagitis (3). Large bowel tumors may also cause intestinal obstruction following diarrhea. Recurrent episodes of watery diarrhea and ileus can be seen in amyloidosis as well (4). There was only one case report in the literature that described a combination of secretary diarrhea and sigmoid volvulus (5). In that patient, the sigmoid volvulus had not been diagnosed and the patient was treated with the long-acting somatostatin analog for the secretory diarrhea. When the intermittent sigmoid volvulus was diagnosed as the provocateur, the redundant sigmoid colon was resected and all the symptoms were relieved promptly. The authors concluded that increased colonic fluid and electrolyte secretion was caused by periodic sigmoid volvulus episodes and resulted in chronic secretory diarrhea (5). Somatostatin can be used in the treatment of the secretory diarrhea by reducing the amount of secretion and the number of defecation (6). However, we did not use of somatostatin in our patients, and the diarrhea after surgery remained in the first case.

In conclusion, It should be considered that sigmoid volvulus may develop after severe secretory diarrhea.

Conflict of interest

No conflict of interest was declared by the authors.

REFERENCES

1- Heis HA, Bani-Hani KE, Rabadi DK et al. Sigmoid volvulus in the Middle East. World J Surg 2008; 32: 459–64.

2- Carethers JM, McDonnell WM, Owyang C, Scheiman JM. Massive secretory diarrhea and pseudo-obstruction as the initial presentation of Crohn's disease. J ClinGastroenterol1996;23:55-9.

3- Fiskerstrand T, Arshad N, Haukanes BI et al. Familial diarrhea syndrome caused by an activating GUCY2C mutation. N Engl J Med2012;366:1586-95.

4- Kim YJ, Kim HS, Park SY et al. Intestinal amyloidosis with intractable diarrhea and intestinal pseudo-obstruction. Korean J Gastroenterol2012;60:172-6.

5- Almog Y, Dranitzki-Elhalel M, Lax E et al. Sigmoid volvulus presenting as chronic secretory diarrhea responsive to octreotide. Am J Gastroenterol 1992;87:148-50.

6- Mulvihill S, Passaro E Jr, Debas H et al. Severe diarrhea after colonic pseudo-obstruction: treatment with somatostatin. N Engl J Med1984;310:467-8.