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CASE REPORT / OLGU SUNUMU

Endoscopic balloon dilatation for the treatment of mechanical intestinal obstruction secondary to colorectal anastomotic stenosis

Mekanik intestinal obstrüksiyona neden olan kolorektal anostomoz darlığının endoskopik balon dilatasyonla tedavisi

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ABSTRACT

Intestinal obstruction is the partial or total blockage of the passage of the gastrointestinal system content. Intestinal obstruction is one of the main causes of emergent abdominal operations and the mortality and the morbidity of the condition could be high if not treated properly. Today, emergency colonoscopy can offer diagnosis and treatment for particularly acute mechanical intestinal obstruction in patients with colonic-level. Here, we presented a case of colonic stricture, which was developed due to an anatomic revision surgery, and treated with endoscopic dilatation. Anastomotic strictures endoscopic balloon dilatation of the quick, minimally invasive, high success rate, reproducibility and low complications application.

Key words: Mechanical intestinal obstruction, anastomotic stricture, balloon dilation

ÖZET

İntestinal obstrüksiyon, intestinal içeriğin gastrointestinal sistem içinde distale doğru olan geçişinin, parsiyel ya da tam olarak engellenmesidir. İntestinal obstrüksiyon, acil karın ameliyatlarının önemli nedenlerinden biridir; uygun şekilde tedavi edilmediğinde yüksek oranda morbidite ve mortaliteye neden olabilmektedir. Günümüzde acil kolonoskopi, özellikle kolon kaynaklı akut mekanik intestinal obstrüksiyon vakalarının tanı ve tedavilerinde kullanılmaktadır. Biz burada revizyon cerrahisi sonrası anastomoz darlığı gelişen ve edoskopik dilatasyon yöntemi ile tedavi edilen bir vakayı taktim ettik. Anastomoz darlıklarında endoskopik dilatasyon, daha az invaziv, başarı şansı yüksek, komplikasyon oranları düşük ve tekrarlanabilir bir yöntemdir.

Anahtar kelimeler: Mekanik intestinal obstrüksiyon, anastomoz darlığı, balon dilatasyon

INTRODUCTION

Acute mechanical intestinal obstruction (AMIO) is defined as a condition in which passage of intestinal contents are prevented by extra-intestinal conditions (postoperative adhesions, hernias etc.), intramural lesions (neoplasms, anastomotic narrowing etc) or intraluminal problems (bezoar) [1]. This clinical condition may be classified according to the anatomic location (small or large intestine) and the severity of obstruction (low-grade partial, high grade partial and total) [2]. AMIO, which constitutes 15% of acute abdominal emergencies, may become more severe with high morbidity and mortality rates when correct diagnosis and effective management are delayed [3]. Urgent colonoscopy in acute mechanical obstruction of colon could provide both diagnosis and treatment [4]. Some disorders such as cancer, volvulus, polyp, perforation, inflammatory disease may require colorectal surgical intervention. Severe anastomotic narrowing after these operations has been reported up to 5-22% [5-8]. In cases of anastomotic narrowing after colorectal surgery, management options varies from conservative methods to surgical resection [5]. Today, conservative methods such as endoscopic dilatation, incision or balloon dilatation plus YAG laser and self-expandable stent are becoming more preferred [6].

Fast and correct diagnosis and treatment are important for the outcome of the anastomotic stenosis (AS) in AMIO. Conservative methods such as

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endoscopic balloon dilatation are safe, sufficiently reverse the obstruction and can be repeated when necessary [9]. This issue is significant especially for old, surgical high-risk patients with serious comorbidities. Surgical treatment, however, should be performed when conservative methods fail to overcome luminal obstruction [10].

In this paper, we present a case of endoscopic balloon dilatation of AMIO caused by colorectal anastomotic stenosis after colostomy repair with resection of sigmoid colon.

CASE PRESENTATION

A 75-year-old female patient with abdominal pain and progressive constipation for seven days was admitted to the emergency department. Abdomen was distended and there were scars of upper midline and left paramedian incisions on physical examination. Decreased bowel sounds on auscultation and tenderness on palpation were noticed. Abdominal rigidity and rebound was absent. Rectum was free on rectal examination. An air fluid level with a large base of a colonic loop was filling almost all of abdominal cavity on abdominal x-ray (Figure 1). Laboratory tests were within normal range and peritoneal irritation findings were absent. Urgent colonoscopy was performed under sedoanalgesia with 20 mg pethidine and 2 mg midazolam. The stenosis at 15 cm from anal verge was almost completely obstructing the lumen. A 8 mm balloon dilatator which can be expanded up to 18 mm, was passed through the stenosis (Figure 2). The balloon was inflated by water to a pressure of 4 atm and hold for 3 minutes. The procedure was repeated twice and the stenosis permitted the endoscope to pass distally. Proximal colon was highly dilated and filled with feces. After the procedure, the patient discharged substantial amount of feces and flatus. After 30 days of discharge, the endoscope was passed through the stenosis readily on control endoscopy (Figure 3). During the endoscopy, biopsies were taken from the stenosis area. The pathologic assessment reported as inflammatory tissue. After fifteen months, colonoscopy was reported as a normal.

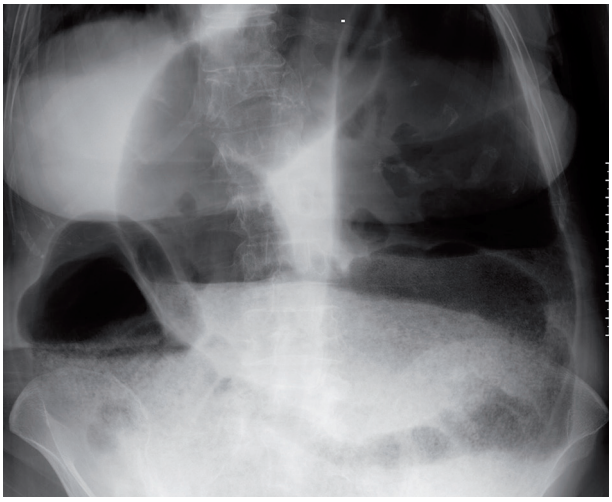

Figure 1. The abdominal x-ray image before the procedure

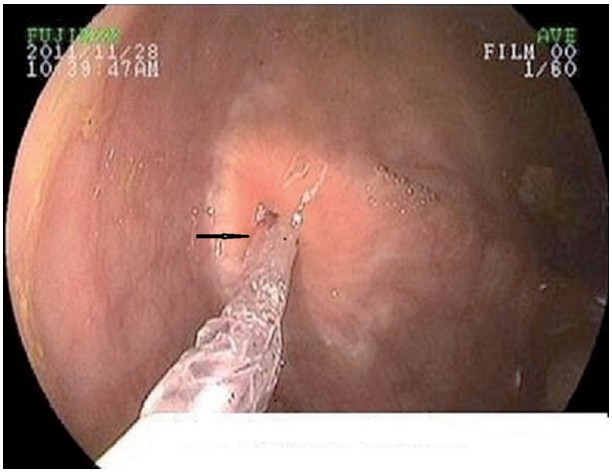

Figure 2. Stenosis seen in figure before the procedure

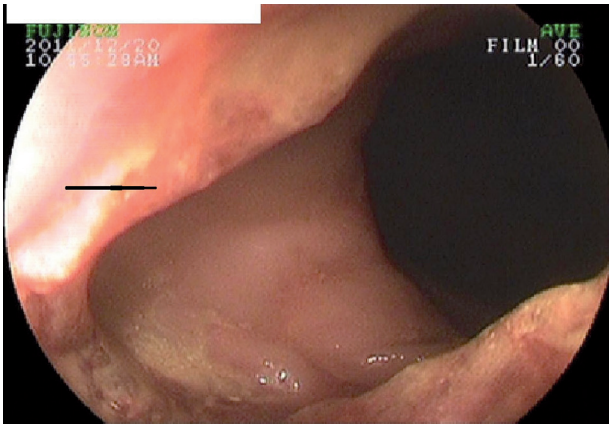

Figure 3. After the procedure, endoscopic view of the anastomotic line

DISCUSSION

The most frequent causes of AMIO are peritoneal adhesions due to abdominal operations. Etiologic factors may differ according to the anatomic level of stenosis (small intestine, colon) [11]. AMIO of large intestine neoplasms, AMIO of colon in anal volvulus are prominent in comparison with other pathological cases [12]. Symptoms and signs may be suggestive in diagnosis of AMIO as well as misleading in the diagnosis of AMIO. The sensitivity of abdominal x-ray is 50-70% [13]. However, diagnostic x-rays provide information about severity and level of the stenosis and complications such as perforation. Urgent colonoscopy, recently, has represented some opportunity both in diagnosis and management of AMIO in colon [4-14]. It also provides endoscopic treatment. Many endoscopic methods for management of colon obstructions are available; among these, the most common choice are detorsion, debulking of tumoral mass, tube and dilatation and stenting are common choices [15]. After colonic surgery, AS is a challenging for both the patient and the surgeon. This is generally caused by ischemia, leaks, inflammation or secondary to bleeding from anastomotic lines within first 4 months [10,16]. Colostomy does not increase the risk of AS but increase the present stricture of stenosis [10]. Some studies reported that that AS was increased in colorectal anastomosis with stapler. There were studies indicating that AS did not increase unless narrower stapler (25 or 28) were used [10]. A substantial proportion of AS diagnosed during the investigations for bowel obstruction as in our case, some patients were incidentally noticed during colonoscopy. Patients were symptomatic 57.7% and 78% in the reports of Placcer et al. and Delaunay et al. [5,10].AS may develop in 5-22% of colorectal anastomoses [5-8]. This rate may increase up to 80% in reports in which early colonoscopic detection was achieved and most are asymptomatic. Between 6-12 months postoperatively most of stenosis decreases. Therefore, not every stenosis encountered at colonoscopy needs intervention if the patient is symptomatic or colonoscope does not pass through the stenosis the procedure will carried out [10]. The lumen in our cases was quite narrow and causing mechanical obstruction. The treatment in AS after colorectal surgery varies from conservative to surgical resection [5]. The therapeutic success is evaluated by passing of 13 mm colonoscope and recovery of symptoms [17]. Biopsy should be done within this area in order to rule out the malignancy [6]. Endoscopic dilatation should be first line therapy in AS which is out of reach of digital examination to be treated with finger dilatation [10]. If no recuperation to finger dilatation, endoscopic incision with dilatation ensues then surgical treatment should be performed [10]. Balloon dilatation (BD) in colorectal stenosis has been used since 1985 [12]. Endoscopic BD is a minimal invasive method and its success rate is high, safe and performed with under direct vision. Its success rate is reported 69-97.6% and perforation rate is 0-3.8% [5,17]. Success and perforation rates varies depending on the type of the stenosis, the length, locations and ulcer within the stenosis [10,16,]. If the stenosis is longer than 1 cm and smaller than 5 mm in diameter, surgical treatment is reported to recover [16]. In our patient, AS was 2 mm in diameter and 3 mm in length. The one séance is enough in 30-40 % of cases and the mean of 2.4 séances for each patient is reported to be necessary [9,10].

In conclusion, AMIO is a disorder with severe morbidity. The surgeon has to define the cause of AMIO with urgent intervention. Delay in the treatment of these cases leads to high complication rates and mortality. AS after colorectal surgery is a rare cause of AMIO. Balloon treatment of AS is a quick, early, minimal invasive option with high success and low complication rate. In colonic AMIO cases, urgent colonoscopy may provide treatment opportunities.

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