

Case Report

Volvulus of Sigmoid Colon in 68-Year-Old Male: A Case Report

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Corresponding author:** Seyed Farshad Heidari, Department of Emergency Medicine, Emam Khomeini Hospital, Medical Faculty, Ilam University of Medical Sciences, Ilam, Iran**Received:** August 29, 2017; **Accepted:** September 26, 2017; **Published:** October 03, 2017**Abstract*Background:** Sigmoid volvulus is a condition in which the sigmoid colon wraps around itself and its own mesentery that if not be treated, often results in life-threatening complications.**Case Presentation:** A 68-year-old man was admitted to the emergency department with a chief complaint of generalized abdominal pain from 3 days ago and a history of subacute intermittent abdominal pain for 14 days. Also, he had bloody diarrhea for more than 5 days. Plain abdominal radiographic findings were suggestive of sigmoid volvulus. The patient initially underwent flexible endoscopy that it was unsuccessful. Therefore, he underwent an emergency laparotomy that it confirmed the diagnosis of sigmoid volvulus that was not gangrenous. Sigmoidopexy was performed for the patient. Then, the patient was discharged from hospital on the 3th post-operative day with good general appearance and recommendation for returning to follow up in the future.**Conclusion:** Sigmoid volvulus is one of the most common causes of large intestinal obstruction in developing countries and should be considered in patients who present with gastrointestinal symptoms due to its life-threatening complications.**Keywords:** Sigmoid volvulus; Omega loop sign; Coffee bean sign; Obstruction

Introduction

Sigmoid volvulus is a condition in which the sigmoid colon wraps around itself and its own mesentery, causing a closed-loop obstruction which if left untreated, often results in life-threatening complications, such as bowel ischemia, gangrene and perforation. It is an important cause of colonic obstruction all around the world [1,2]. It represents 4% of all cases of large bowel obstruction in developed countries and 50% in developing countries [3]. Sigmoid volvulus may present with acute sigmoid torsion, recurrent previous torsion or ileo-sigmoid knotting [4]. Sigmoid volvulus usually affects adults, with the highest incidence seen in the 4th-8th decades of life [3]. It is more common in males and occurs in ratios ranging from 2:1 to 10:1 compared to females [3,5]. Patients present usually with a triad of abdominal pain, constipation and abdominal distention [6]. It has also been reported another symptoms and signs such as vomiting, empty rectal ampulla, associated mental and other medical illnesses in sigmoid volvulus presentation [5,6].

Case Presentation

The patient was a 68-year-old man, who had suffered from generalized abdominal pain from 3 days ago and previously had subacute intermittent abdominal discomfort for approximately 2 weeks. He had mild bloody diarrhea for more than 5 days, and had not visited the emergency department prior to the current admission. Patient had no headache, nausea and vomiting. He had a history of hypertension from 3 years ago. He was taking captopril tablet for hypertension. He had no history of abdominal surgery.

Patient was ill in appearance and upon arrival, his vital signs were blood pressure of 120/80 mmhg and pulse rate of 90 per min in the emergency room. Physical examination revealed diffuse abdominal tenderness and distention without guarding and rebound tenderness. Other examinations were normal. The results of hemogram and biochemical studies performed after admission of the patient were as follows: Hgb of 14.1g/dl, white blood cell count of 5.6/ μ l, serum sodium concentration of 140mmol/l, serum potassium concentration of 4.5mmol/l, serum urea level of 35mg/dl and serum creatinine level of 1.4mg/dl. Supine and upright plain films of the abdomen revealed a distended sigmoid loop with an inverted U configuration (omega loop sign) and a coffee bean sign (Figure 1A and 1B). Also, upright plain film of the chest x ray showed no sub-diaphragmatic free air (Figure 1C). The patient initially underwent flexible endoscopy that it was unsuccessful. Therefore, he underwent an emergency laparotomy that it confirmed the diagnosis of sigmoid volvulus that was not gangrenous. Sigmoidopexy was performed for the patient. Then, the patient was discharged from hospital on the 3th post-operative day with good general appearance and recommendation for returning to follow up in the future. The plain film omega loop and coffee bean sign are indicative of acute bowel obstruction, including mural thickening and dilatation of the bowel loops. This radiographic markers aid in the diagnosis of sigmoid volvulus and physicians need to be aware of them, because sigmoid volvulus may be life-threatening and require emergency surgical intervention.

Discussion

Volvulus occurs when colon twists on its mesenteric axis with

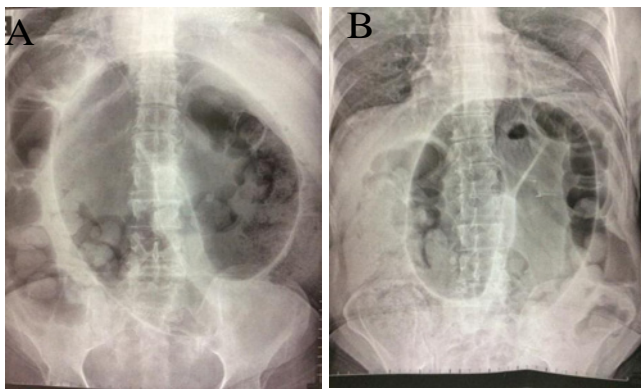


Figure 1A and 1B: Supine and upright plain films of the abdomen revealed a distended sigmoid loop with an inverted U configuration (omega loop sign) and a coffee bean sign.



Figure 1C: Upright plain film of the chest x ray showed no sub-diaphragmatic free air.

a greater than 180° rotation, producing obstruction of intestinal lumen and mesenteric vessels [1,2,7]. The most common locations for volvulus to occur include the sigmoid colon, cecum, splenic flexure, and transverse colon in order of decreasing frequency [8]. Sigmoid volvulus, one of the causes of intestinal obstruction, should be diagnosed and treated at early stages. It may lead to intestinal ischemia, necrosis, perforation, and diffuse peritonitis when a delay occurs in its diagnosis. Sigmoid volvulus is one of the most common causes of large intestinal obstruction in developing countries [7]. It predominantly affects the elderly men with comorbidities. Affected individuals mostly seek medical attention because of abdominal pain, bloating, nausea, vomiting, and inability to pass stool and gas [9]. A long and mobile colonic segment with a narrow mesenteric base is considered the most important predisposing condition for volvulus. Also, other factors are known as the causes of disease such as chronic constipation, colonic motility disorders, anatomic variations, megacolon, prolonged bed rest, aging, neuropsychiatric disorders, previous abdominal surgery, pregnancy, chagas disease, hirschsprung disease, and scleroderma [10]. Patients present usually with a triad of abdominal pain, constipation and abdominal distention [6]. It has also been reported another symptoms and signs such as vomiting, empty rectal ampulla, associated mental and other medical illnesses in sigmoid volvulus presentation [5,6]. Sigmoid

volvulus has been classically divided into 2 types, by clinical course, as described by Hinshaw and Carter [11]. Acute fulminating volvulus, caused by a complete obstruction, has a clinical presentation of sudden onset periumbilical pain with emesis and constipation. Patients frequently have peritoneal signs on examination. Gangrene and perforation are commonly early complications with this type of volvulus. On the contrary, with subacute progressive volvulus, patients have only partial obstruction and therefore have a more insidious onset. The subacute form is often seen in older patients, with a more subtle clinical picture, described as poorly characterized abdominal cramping, often worse on the left side of the abdomen. The understated clinical symptoms in subacute progressive volvulus often lead to delay in diagnosis. On physical examination, upper abdominal distention with associated tenderness, tympany, an empty rectum, and visible peristalsism are all associated with both forms of sigmoid volvulus. The most important diagnostic proceedings used for volvulus include physical examination, plain abdominal radiographs, endoscopic examinations, computed tomographic scan (CT-scan), magnetic resonance imaging (MRI), and barium enema. Plain radiographs show air-fluid levels in dilated small intestinal loops, the omega loop and coffee bean signs of the over distended colonic segments are present in about one third of all sigmoid volvulus cases and may suffice for the diagnosis. The treatment of sigmoid volvulus consists of non-surgical and surgical methods. The preceding procedures include rectal tube placement, enema, and rigid or flexible endoscopic decompression. These techniques should be performed when there are no signs of necrosis or perforation. It is known that endoscopic decompression is the most efficient non-surgical method [12]. Although it has been reported that more than three quarters of cases of sigmoid volvulus are successfully detorsioned by endoscopic procedures, recurrence rates can be as high as 21 to 57 percent. Therefore, it is recommended that sigmoid colon resection is performed under elective conditions after endoscopic detorsion [13]. Urgent laparotomy is recommended when decompression is unsuccessful or if the patient is felt to be at high risk for gangrene or perforation. When gangrenous bowel is discovered, immediate resection is necessary [14]. Surgical treatment techniques performed in emergency situations are associated with higher rates of mortality and morbidity due to the presence of comorbid conditions, poor general status, and the inability to perform pre-operative intestinal cleaning. To this reason, attempting for non-surgical procedures initially is more useful. In cases when non-surgical methods fail, an urgent surgical intervention becomes unavoidable [15]. In only 10% of sigmoid volvulus cases is colon found to be gangrenous. In cases which viable colon is encountered, the decision of whether or not to resect must be made. When resected, there is controversy regarding whether to restore intestinal continuity. Altogether, if the colon is viable, evidence favors primary anastomosis when feasible.

In this case, plain abdominal radiographic findings were suggestive of sigmoid volvulus. The patient initially underwent flexible endoscopy that it was unsuccessful. Therefore, he underwent an emergency laparotomy that it confirmed the diagnosis of sigmoid volvulus that was not gangrenous. Sigmoidopexy was performed for the patient. Then, the patient was discharged from hospital on the 3th post-operative day with good general appearance and recommendation for returning to follow up in the future.

Conclusion

Sigmoid volvulus is one of the most common causes of large intestinal obstruction in developing countries and should be considered in patients who present with gastrointestinal symptoms due to its life-threatening complications.

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