Successful Treatment with Rectal tube Placement and Barium Enema in Uncomplicated Acute Sigmoid Volvulus: A Case Report

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Abstract

Sigmoid volvulus is a condition in which sigmoid colon wraps around itself and its own mesentery, which then causes a closed-loop obstruction. This condition accounts for 50-90% cases of twisted large intestine and often affects adults and are commonly found in males. The classic triad signs and symptoms are abdominal pain, distention, and constipation. Although the emergency resection seems to be the right procedure in treating acute sigmoid volvulus, there is still non-surgical treatment often done in several conditions. We reported a 52-years-old male with uncomplicated acute sigmoid volvulus who underwent non-surgical treatment due to his refusal of surgical therapy. Non-surgical treatment was successfully done and no recurrence found within one year. The aim of this report was to emphasize that non-surgical therapy only could be successfully done without surgical treatment.

Keywords: *Sigmoid Volvulus, Non-Operative Management Of Volvulus, Conservative Treatment*

Introduction

Acute sigmoid volvulus (SV) occurs when there is an obstruction due to the torsion of the colon around itself, including its mesentery[1]. It may cause ischemia and leads to gangrene, or even perforation[2]. SV accounts for more than half (60-75%) of total cases as the most susceptible part of colonic volvulus[2]. Some predisposition factors considered are old age, dietary of high fibre, prolonged constipation, anatomical factors, living in the highland, diabetes, and neurological disease[3].

Surgical treatment is needed for unsuccessful non-surgical treatment or recurrent volvulus, peritonitis, and perforation[4]. Whereas for uncomplicated SV, an early non-surgical detorsion followed by elective sigmoid resection is preferable[4]. However, high recurrent rates (43-75%) were observed in patients who undergo non-surgical treatment without followed by surgical intervention[2]. Those who underwent surgery after a recurrence of SV had a greater mortality rate than patients who underwent elective surgery after their initial volvulus episode[4].

We report a case of a 52-years-old male who suffered from uncomplicated acute SV who was treated non-surgically using rectal tube insertion. We intend to report our experience in managing SV without surgical intervention which was successfully done with no recurrence within one year.

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Case

We present a 52-years-old man who came to the emergency department Dr. Soetomo Hospital on January 13, 2019 with ten days history of abdominal distention and intermittent abdominal pain all over his abdomen. He felt nausea and vomit 30 minutes right after eating. Five days prior, he had constipation with no fevers. He couldn't flatus one day before his admission to hospital. Within the last three years, he has been suffering from mild stroke, hypertension, and diabetes. In the past six months, he tended to depressed because of the economic problem.

Patient was hemodynamically stable. The physical examination revealed an increase of bowel sounds, abdominal distention with tympanic percussion, and tenderness while liver dullness was missing. There was approximately 7 cm soft and painless palpable mass on the left lower quadrant, no abnormality in Rectal Toucher examination. We found a wound at the plantar foot that has existed for two months and made him spent more time in bed.

His complete blood count, liver and renal function tests were within the normal limit. Blood glucose level showed an increment to 323 g/dl and the HbA1c was 9,9%. Meanwhile, other laboratories values did not show any change.

Abdominal X-ray (Fig. 1) showed a dilated intestinal gas shadow ('coffee bean shaped') projected as high as VL 2 to sacrum ostium, mixed with bulging fecal material. An elongated pathological step ladder image was found. There was no free air outside the intestinal contour.

Figure 1. Abdominal X-ray of the Patient (coffee bean shaped)

Patient was instructed to fast while undergoing a nasogastric tube insertion. Rectal tube insertion was performed slowly to release the SV because surgical treatment was refused. Therefore,. His general state improved and the abdomen was decompressed. He was evaluated each hour for signs of perforation. The X-Ray evaluation was done after six hours of rectal tube insertion (Fig. 2). The fecal material was still bulging but no coffee bean-shaped image was obtained. Based on the evaluation results of rectal tube insertion, the SV was released. The rectal tube was retained for the next two days to prevent the recurrence of volvulus while waiting for the Colon in Loop procedure to be prepared. Furthermore, Digestive Surgery Department suggested to perform sigmoidectomy surgical procedure, but the patient still refused.

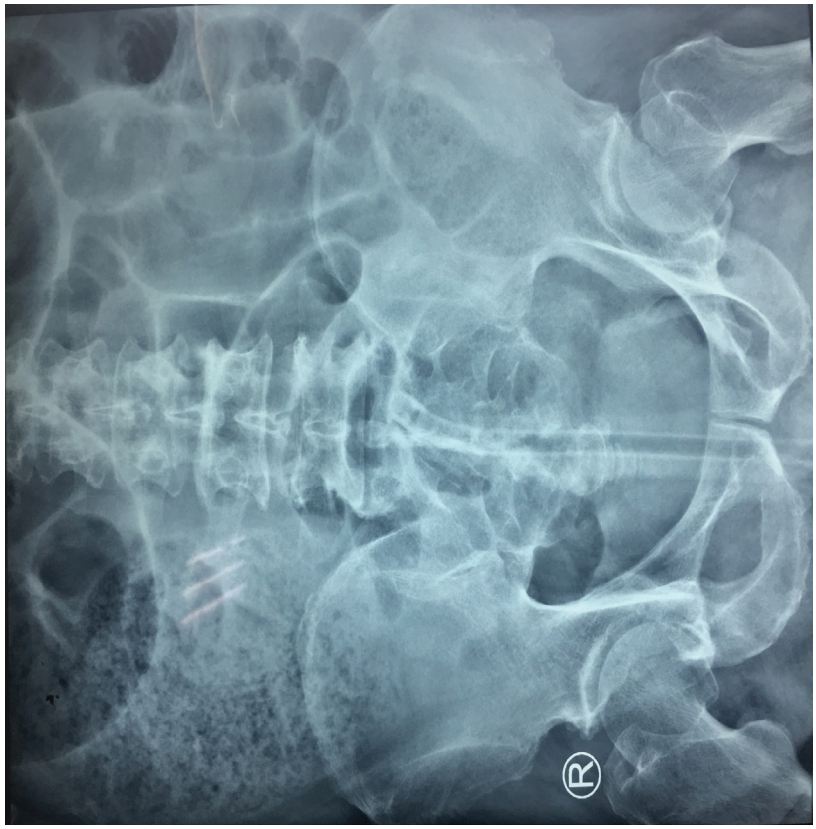

Figure 2. Abdominal X-ray evaluation of the Patient after rectal tube insertion.

Due to the bulging fecal material, the patient was given 100 ml glycerin enema every 8-12 hours and oral macrogol solution before performing the Colon in Loop. After that, Colon in Loop examination was done with barium enema using water-soluble contrast for diagnostic and reduction therapy procedures. The contrast appeared to fill almost all parts of the colon. However, there was a narrowing of sigmoid colon lumen, forming a 7.5 cm napkin ring sign (Fig. 3). There was no visible filling defect nor contrast leakage. Thereafter, the tube was removed. The patient was evaluated for the next two days. Glycerin enema was given once in 24 hours. It shaped and softened the fecal consistency. Furthermore, the patient had no more complaints nor recurrence of volvulus event. The patient was discharged with an uneventful outcome from the hospital on the 5th day of treatment. He was prescribed a glycerin enema, used if the patient could not defecate for two days.

After one week discharged, the patient could defecate normally without any complaints. There were no distended stomach, abdominal pain, nor abnormal bowel sounds discovered. Based on the evaluation of the disease, it concluded that there was no recurrent volvulus. The patient routinely had medical follow-up once a month for a year. Furthermore, there was no complaint from the patient. Any further supervision was not performed due to the refusal from the patient and family for further examination.

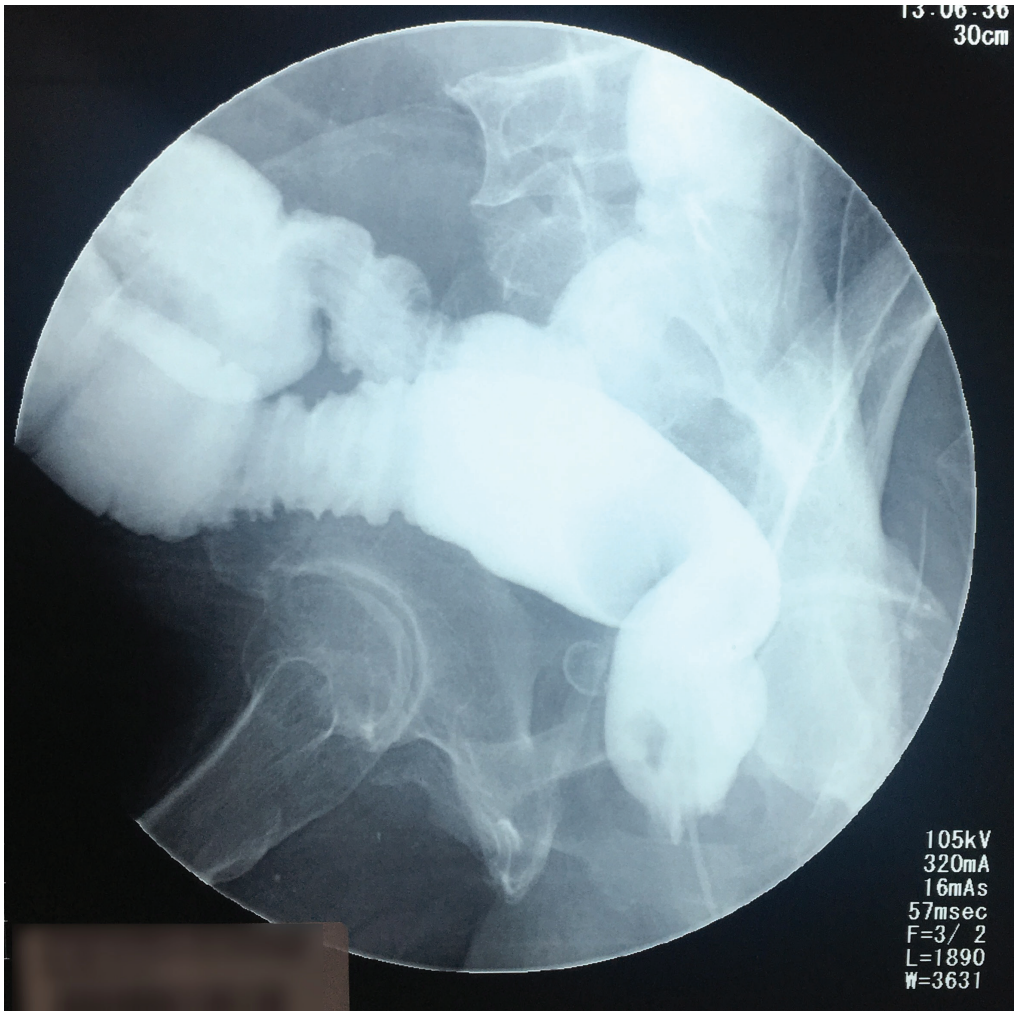

Figure 3. Colon in Loop examination of the Patient (napkin ring sign).

Discussion

SV is the common site of colonic volvulus obstruction, which accounts for more than half of the total cases[2]. It particularly occurred in man with elderly age but could be suffered by anyone in any age. Besides old age, some predisposition factors are varied, such as anatomical factors, dietary of high fibre, prolonged constipation, living in the high altitude, diabetes, and neurological disease[2]. In this case, the predisposing factors were old age, high fibre diet (agar), chronic constipation (immobilization due to diabetic food and depression).

Nowadays, the diagnosis of SV often done very quickly by doing some imaging examinations[5]. The plain abdominal X-Ray is often done to diagnose the SV in the emergency room. It shows a "coffee bean-

shaped" which represents the dilatation of the colon due to the torsion loop of the sigmoid colon[3]. For more accurate results, an abdominal CT scan could be performed in several conditions. The bird beak appearance and the whirl sign could be represented as the torsion of the pedicle colon[3].

We performed an abdominal X-ray and there was a 'coffee bean shaped' image projected as high as VL 2 to sacrum ostium, mixed with bulging fecal material. It is highly pathognomonic picture of SV. An elongated pathological step ladder image was found with no free air outside the intestinal contour suggesting no free air in the abdominal cavity. Besides, a Colon in Loop examination using Barium Enema was also done because surgical therapy was refused by patient. There was no visible filling defect, indicate there was no perforation. This patient was in the stable condition with no complication detected.

The goals of the SV decompression are intended to resolve the obstruction and to prevent a recurrence. There are surgical and non-surgical treatment[1]. Unstable patients with ischemia, peritonitis, perforation, or recurrent unsuccessful non-surgical treatment are the suitable conditions for urgent surgical treatment, while the non-surgical treatment done in the stable patients[4].

The mortality and morbidity of uncomplicated patients that following surgical intervention were low, 0% and 12% respectively[2]. Therefore, surgical treatment is frequently suggested in SV patients during the initial admission or as an elective treatment[4]. One of the surgical techniques is the Hartmann procedure. It is suggested for patients with non-viable or perforated colon[2].

Non-surgical treatment could be done in uncomplicated patients. In patients with viable colon, the endoscopy procedure is the first-line therapy for sigmoid colon detorsion[3]. The effectiveness could achieve approximately 60-95% rates[2]. Even if the success rate is high, the recurrence after endoscopy detorsion is up to 90%[3]. The SV often recurrent in more than half patients after three months from the prior treatment and almost in the first year[3]. Unfortunately, the mortality rate in recurrent SV is also higher than patients who had an elective surgery thereafter[2]. Therefore, subsequent elective surgery after initial decompression is needed.

This patient was categorized as an uncomplicated acute SV. In this case, endoscopy detorsion and elective surgery were suggested, considering that the patient was in stable condition: no signs of peritonitis, ischemia, nor perforation. Nevertheless, the patient and family refused the colonoscopy procedure and surgical therapy due to the mentality problem and cost. Therefore, the Colon in Loop as reduction therapy procedures and the rectal tube insertion was chosen to be performed to release the SV. Overall, his general state improved and the abdomen was decompressed due to the elimination of gas and faeces through the tube. If the non-surgical procedure was not effective, urgent surgery would be necessary. In this case, the patient has not presented any recurrence after one year of follow-up and is under observation.

Conclusion

To identify SV, a clinical examination and simple abdominal radiographic findings are frequently performed. Early diagnosis and therapy are critical for the disease's prognosis. Although surgery is recommended, there is still a chance that the patient will decline surgical treatment for several reasons. This report included an instance in which the patient declined surgery or even non-surgery method. As a result, the Colon in Loop and rectal tube were chosen and were successfully completed with no recurrence discovered within one year in this patient.

Ethical Clearance- Nil

Source of Funding- Nil

Conflict of Interest - Nil

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