

First Report of Resection and Anastomosis in a Strangulated Hernia in Reda Bolo Regional General Hospital Southwest Sumba: A Case Report

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ABSTRACT

Background: Hernia is a protrusion or abnormal opening on the abdominal wall fascia due to anatomical weakening. Several cases may progress into a strangulated case leading to necrosis, which requires immediate diagnosis and intervention to prevent complications. **Case presentation:** A 62-year-old woman presented with abdominal pain in all areas and decreased appetite. The patient also complained of not defecating for the last two days. Physical examinations showed abdominal distention and diminished bowel sounds. Abdominal radiographs showed features of intestinal obstruction. The patient then underwent exploratory laparotomy, which showed strangulated hernia and necrotic ileum. Intestinal resection followed by end-to-side anastomosis was conducted and the patient was strictly monitored postoperatively. No complication and/or significant findings during the postoperative period. **Discussion:** Resection and anastomosis in strangulated hernia are interventions conducted following the finding of necrotic ileum for 10 cm with ileocaecal junction coils. **Conclusion:** This case is considered a rare case in Southwest Sumba. The patient was treated with limited facilities but had a remarkable outcome.

Keywords: hernia; ileocaecal; resection and anastomosis; strangulated; surgery

INTRODUCTION

Hernia is a protrusion or abnormal opening of the abdominal wall fascia. This defect can be found in any anatomically weakened abdominal wall fascia, generally in the anterior (umbilical) abdominal wall and the groin area (inguinal and femoral) [1]. Hernia is classified into responsible, incarcerated, and strangulated based on several clinical features. A strangulated hernia is a nonreducible hernia in which its content becomes ischemic due to impaired blood supply [1,2].

Strangulated hernia most commonly occurs when there is a small opening in the muscle with a large amount of content within the hernia itself. Strangulated inguinal hernia is one of the most frequently encountered surgical emergencies and is one of the most common causes of intestinal obstruction across all age groups. The prevalence of strangulated inguinal hernia worldwide is 0.3-2.9% of all inguinal hernias in adults [3].

In cases of strangulated hernia, patients may experience symptoms of intestinal obstruction, including nausea, vomiting, and constipation.

If strangulation occurs and there is intestinal ischemia, patients will experience severe pain and may exhibit symptoms of sepsis (hypotension, tachycardia). In cases of strangulated hernia, surgery must be performed immediately to avoid complications and deterioration.⁴ If intestinal obstruction is present, fluid resuscitation and the placement of a nasogastric tube for decompression are required. If there is suspicion of intestinal necrosis or perforation, broad-spectrum antibiotics should be administered [4].

In this article, we reported a 62-year-old woman with a strangulated hernia. This article is expected to provide further information regarding the diagnosis and treatment of strangulated hernia since it is a rare case in Sumba with limited facilities, medications, and the lack of an intensive care unit in the hospital.

CASE REPORT

A 62-year-old woman was referred from a primary health center with complaints of abdominal pain for the past 5 days, accompanied by a loss of appetite and fluid intake.

The patient also reported no bowel movements for the past 2 days. On physical examination, abdominal distension was noted along with absent bowel sounds. An abdominal X-ray indicated intestinal obstruction.

Hematology lab results showed leukocytosis with a white blood cell count of 30,000. An NGT (nasogastric tube) was placed for decompression. The output from the NGT was greenish in color.

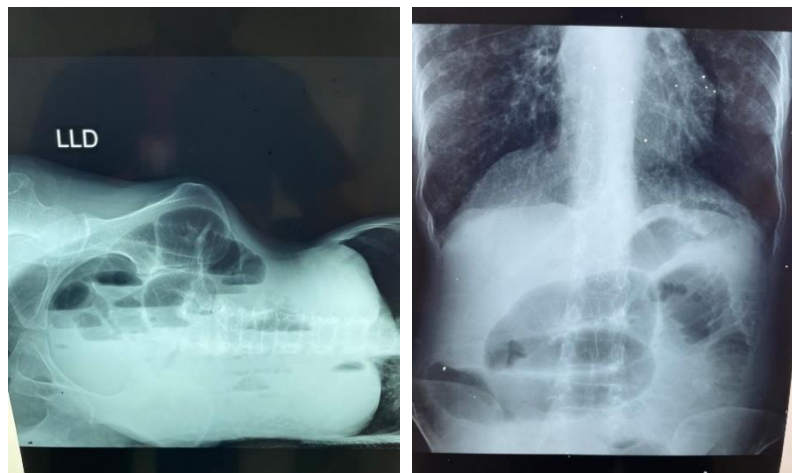


FIGURE 1: Plain abdominal radiographs show features of intestinal obstruction.

The patient was then prepared for exploratory laparotomy. Prior to the laparotomy, the patient was given intravenous antibiotics: ceftriaxone 2 grams and metronidazole 500 mg, and was kept fasting. During the exploration, a twisted and blackened ileum was found.

Resection was performed followed by end-to-side anastomosis. An abdominal drain was placed to monitor intra-abdominal bleeding post-anastomosis. Post-surgery, the patient was closely observed in the general ward due to the unavailability of an ICU at the regional hospital.

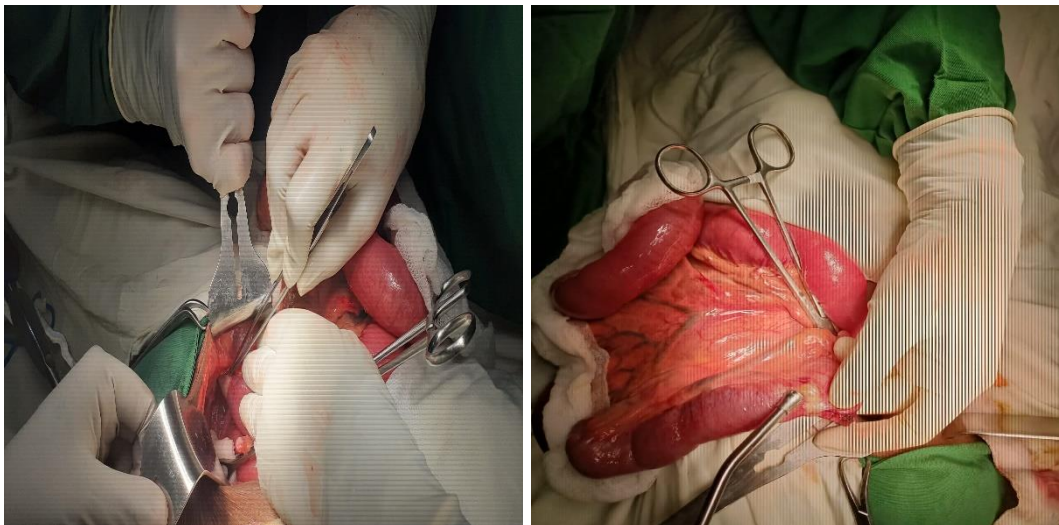


FIGURE 2: Hernia Strangulated.

On the first postoperative day, the patient's vital signs were still unstable, and bowel sounds were weak; thus, the patient was kept on fasting. Parenteral nutrition was not available at the healthcare facility, so intravenous fluids (RL: D5% in a 2:1 ratio) were administered as nutrition, along with intravenous antibiotics: ceftriaxone 2 grams once daily and metronidazole 500 mg three times daily.

By the fourth postoperative day, the patient's condition had improved, with stable vital signs and the onset of flatus. Auscultation revealed weak bowel sounds, and the abdominal drain output was serous hemorrhagic fluid. The patient was started on a D5% diet at 10 cc every 6 hours.

On the eighth postoperative day, the patient's condition was stable, indicated by stable vital signs and strong bowel sounds. The patient was started on a milk diet at 100 cc every 6 hours, and the NGT was clamped.

By the eleventh postoperative day, the patient had a bowel movement, with strong bowel sounds. The NGT and abdominal drain were removed. The patient was started on a porridge diet and began mobilization, including sitting and walking.

DISCUSSION

A hernia is an abnormal protrusion or opening in the fascia of the abdominal wall. This defect can be found in any area of the abdominal wall fascia that experiences anatomical weakening, usually in the anterior abdominal wall (umbilical) and the groin region (inguinal and femoral). Inguinal hernia is one of the most common issues faced by surgeons and has significant complications with a high frequency of occurrence [1,2].

Hernias are classified into reducible hernia, incarcerated hernia, and strangulated hernia based on certain clinical features. A strangulated hernia is defined when the hernia cannot be reduced and the hernia contents become ischemic due to impaired blood supply. The prevalence of strangulated inguinal hernia worldwide is 0.3-2.9% of all inguinal hernia cases in adults. Hernia strangulation typically occurs at an average age of 69 years with no gender difference. In this case, we encountered a 62-year-old female patient [2,3].

There are several etiological causes of hernias. Hernias can be caused by congenital abnormalities or acquired from weakening of the abdominal wall due to surgical incisions or trauma. The incidence of hernia increases with age, possibly due to increased conditions that elevate intra-abdominal pressure and reduced strength of supportive tissues. In this case, the weakness of the abdominal wall is most likely due to age, although the specific risk factors causing increased intra-abdominal pressure are not known.

In addition to the complaint of a bulge as seen in other hernia cases, patients with strangulated hernia may also present with pain disproportionate to the examination, erythema over the hernia bulge, and hyperesthesia. Because hernia is one of the most common causes of intestinal obstruction, patients may also show signs of intestinal obstruction such as nausea, vomiting, abdominal distension, and absence of flatus and bowel movements. In this case, symptoms included generalized abdominal pain, decreased appetite and fluid intake, and constipation. Physical examination revealed signs of abdominal distension and absent bowel sounds [4,5].

An abdominal X-ray showed evidence of intestinal obstruction. In cases of hernia accompanied by obstructive ileus, a supine abdominal X-ray may show dilation of several loops of the small intestine, with minimal gas in the large intestine. An upright or lateral decubitus X-ray may reveal air-fluid levels in a step ladder pattern. These findings, along with the absence of gas and feces in the distal colon and rectum, indicate the presence of intestinal obstruction. Hematology lab results showed leukocytosis with a white blood cell count of 30,000. Leukocyte count can increase if intestinal bacteria translocate into the bloodstream or if intestinal ischemia or perforation occurs [5].

The patient underwent exploratory laparotomy. The surgical repair of a strangulated hernia depends on the surgical skill and the surgeon's choice (laparoscopic or open laparotomy). Open laparotomy is often considered the gold standard for the operative management of incarcerated and strangulated inguinal hernia. The need for bowel resection depends on bowel viability. If the bowel appears dark purple and the lumen contains dark hemo-serous fluid, the likelihood of intestinal ischemia requiring resection is very high. Several methods to assess normal bowel viability include a shiny peritoneal surface, dark red color, and active peristaltic movements, indicating normal bowel viability. In this case, intraoperative exploration revealed a strangulated hernia and necrotic ileum. Resection was performed followed by end-to-side anastomosis [6,7].

Mortality and overall prognosis are influenced by whether the surgery is emergency or elective. Mortality increases up to 3% and morbidity up to 41% in emergency surgeries for strangulated hernia, especially when bowel resection is performed. In our case, after surgery, the patient was closely monitored in the general ward due to the unavailability of an ICU, and no significant complications were observed during the care period. We conducted close observation as complications related to hernia surgery are more common in patients undergoing emergency surgery, especially those with comorbidities and advanced age [3,8].

Malnutrition is associated with postoperative complications and an increased risk of death after surgery. Advanced age is also linked to malnutrition in hospitalized patients, many of whom require emergency surgery. Due to the lack of availability of parenteral nutrition at the healthcare facility, intravenous fluids (RL: D5% in a 2:1 ratio) were administered as nutrition in this case. Ideally, postoperative management should be conducted in the ICU; however, due to the lack of ICU facilities at the regional hospital, the patient was cared for in the general ward. To address this issue, we provided close monitoring and continuous patient observation [9].

Additionally, Southwest Sumba Regency has only one surgical specialist serving at Reda Bolo Regional Hospital, covering an area of 1,445.32 km² with a population of 322,073 people. This presents a challenge in providing adequate healthcare services to the community.

CONCLUSION

A strangulated hernia is a new case that was managed for the first time at Reda Bolo Regional Hospital with limited facilities. The unavailability of parenteral nutrition necessitated the use of D5% as parenteral nutritional intake. This posed a challenge for us in handling this case with the existing limitations, but we achieved optimal results.

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