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CASE REPORT

Strangulated Femoral Hernia with Perforated Jejunal Pseudo Diverticulum: a Case Report

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ABSTRACT

Introduction: *Sixty percent of femoral hernias are characterized by incarceration and strangulation. Jejunal pseudo diverticulum are rare and usually asymptomatic. It may cause chronic obstruction of small bowel and can lead to an acute perforation.*

Case presentation: *An 85 – year – old woman presenting with 1 week history of generalized abdominal pain, with episodes of vomiting, fever, and history of 6 months of reponible femoral hernia and 2 weeks strangulated of femoral hernia. An abdominal X-ray displayed multiple dilated loops of the small bowel, coil spring sign and intra peritoneal free air. This patient underwent a laparotomy and herniorahy, which identified single perforated jejunal pseudo diverticulum 50 cm from ligamentum of treitz orally from strangulated of ileal on femoral hernia site, and associated fecal contamination. The management for this case was perforation repaired with diverticulectomy, simple closure, and extensive washout of intraperitoneal cavity. The non tension femoral hernia repair was performed with monofilament, macroporous MESH.*

Conclusion: *chronic intestinal obstruction caused by femoral hernia in the elderly can lead a performed of intestinal pseudo diverticulum and lead to significant morbidity and mortality. This could be suspected in those presenting with cramping abdominal pain and altered bowel habits.*

Keywords: *hernia, femoral, strangulated, pseudo diverticulum, perforated, management*

INTRODUCTION

Jejunal diverticulum, least common of the small bowel diverticula, have an incidence of 0.002 – 5%. Jejunal diverticulum incidence increases with age, and the peak incidence was found in the sixth and seventh decades of life. Jejunal diverticulum considered as acquired pseudo diverticulum, resulted from jejunoileal dyskinesia, causing increased intraluminal pressures and herniation of the mucosa and submucosa through the weakest site of the muscle layers of the bowel wall (i.e, the mesenteric border, where paired blood vessels enter the bowel wall). They can be single (33%) or multiple (66%) and located in the jejunum (55-80%), ileum (15-38%), or both (5-7%) (Peraneau and S., 2013).

Despite most cases of jejunal pseudo diverticulum remains completely asymptomatic, complications were reported in 10 to 30% of patients. These include chronic abdominal pain, malabsortion, hemorrhage, diverticulitis, obstruction, abscess formation and rarely diverticular perforation (Liu and Wu, 2017). We present a rare case of acute abdominal pain with a strangulated femoral hernia and perforated jejunal pseudo diverticulum.

CASE PRESENTATION

An 85 year-old woman, presented to the emergency room with 1 week history of generalized abdominal pain, with episodes of vomiting, meteorismus, fever, and could not defecate for 2 days. The patient had a past medical history of lump in the right groin which reponible for 6 months, and became irreponible for 2 weeks before admitted to the hospital.

On physical examination, our patient's vital signs were as follows: temperature 38.3°C, heart rate 110x/minute, blood pressure 110/78 mmHg and respiratory rate 28 x/minute. Abdominal examination revealed a generalized abdominal tenderness and sign of peritonitis, with negative liver dullness. On right groin, 2 cm below inguinal ligament found a dome shaped lump, fixed, and irreducible.

Laboratory investigations revealed an elevated white cell count (WBC 20,900/mm3), an impaired renal fuction (urea 133 mg/dl, creatinine 0.9 mg/dl) and elevated serum lactate (2.9 mmol/L). Abdominal X–ray displayed multiple dilated loops of small bowel with coil spring sign, and free air on intraperitoneal cavity (figure 1).

The patient underwent a laparotomy and

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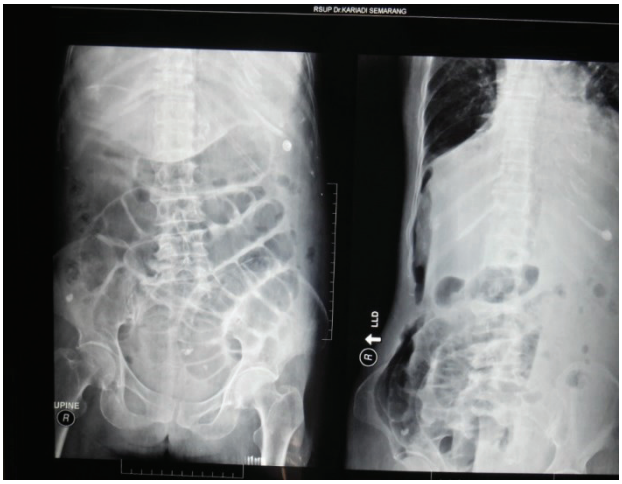

Figure 1. Abdominal X ray (AP and LLD position)

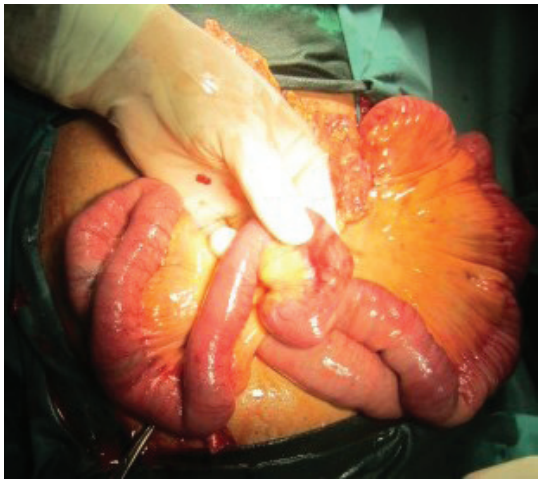

Figure 2. Partial strangulated ileum of right femoral hernia

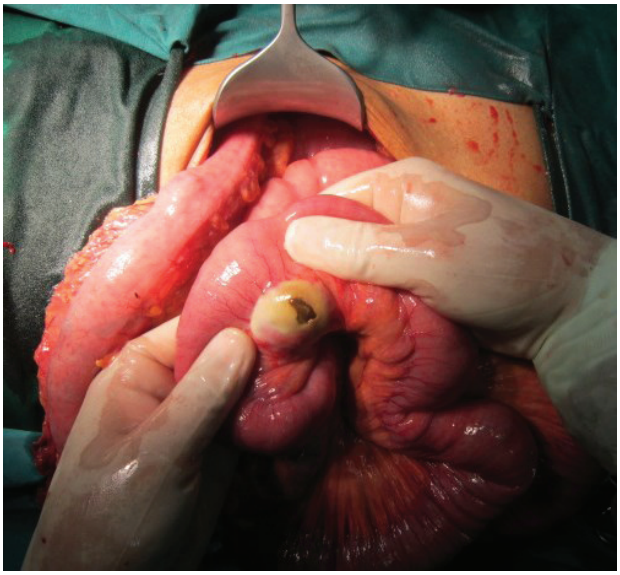

Figure 3. Perforated jejunal pseudo diverticulum

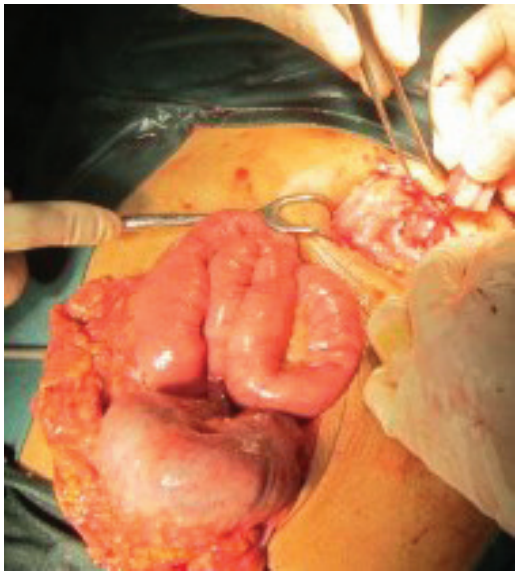

Figure 4. Repaired of perforated jejunal pseudo diverticulum

herniorapy on right femoral hernia. There was 1 loop of partial strangulated ileum on right femoral hernia, 70 cm proximal from ileocaecal junction which still vital and there was not perforation on this site (figure 2), and then explored proximal of strangulated site which identified single perforated of jejunal pseudo diverticulum (mesenterial site and diverticula wall contain mucosa and submucosa) 50 cm from ligamentum of treitz (figure 3) and associated fecal contamination. The site of perforation was performed diverticulectomy and closed primarily and oversewn (figure 4). Extensive abdominal wash out was performed. During operation, right non tension femoral hernia repaired, with monofilament, macroporous mesh. Postoperative course of the patient was complicated by an episode of sepsis from which she made a full recovery.

DISCUSSION

Jejunal pseudo diverticulum considered as acquired pseudo diverticulum, resulted from combination of abnormal peristalsis, jejunal dyskinesia, and high segmental intra luminal pressures, causing increased intraluminal pressures and herniation of the mucosa and submucosa through the weakest site of the muscle layer of the bowel wall (i.e, the mesenteric border, where paired blood vessels enter the bowel wall). (Peraneau and S., 2013; Harbi et al., 2017). The diagnosis of jejunal pseudo diverticulum is often challenging because most patients are asymptomatic (up to 70%) or present with vague abdominal complaints. Usually this disorder is clinically silent, until it presented

with the complications associated with diverticular disease. When symptomatic, patients may describe a vague, chronic abdominal pain of varying severity, localized either to the epigastrium or peri umbilical region. The only definitive way to confirm jejunal diverticulosis as the primary source of abdominal pain cessation of symptoms after surgical resection of the involved segment of small bowel. Complications of jejunal diverticulosis warranting surgical intervention occur in 8 – 30 % of patients (Ejaz, Vikram and Stroehlein, 2017). Common acute complications include diverticulitis, bleeding, intestinal obstruction and perforation (Transue et al., 2017).

Jejunal pseudo diverticulum is a challenging disorder from a diagnostic perspective, with no truly reliable diagnostic tests. Abdominal radiographs and or chest radiographs may demonstrate evidence of perforation, such as free air under the diaphragm or free peritoneal air, evidence of intestinal obstruction, including multiple air fluid levels and bowel dilatation. Abdominal CT scan may identify thickening or inflammation of the jejunum or localized abscess formation (Levack, Madariaga and Kaafarani, 2014). Endoscopic procedures, such as double balloons enteroscopy and capsule endoscopy are useful in diagnosing small bowel disorder. However, these procedures cannot be used in the emergency setting, such as intestinal obstruction or perforation (Albert, 2012). Diagnostic laparoscopy can be very useful in investigating patients with a complicated symptomatology. It enables an accurate conclusive diagnosis to be made, avoiding the need for unnecessary laparotomy. In the presence of laparoscopic findings such as perforation, abscesses, and mechanical obstruction, exploratory laparotomy is required with resection of the diseased bowel and primary anastomosis is appropriate (Kassir et al., 2015).

If the perforation of jejunal diverticulum causes only localized peritonitis and the patients remains stable, it is has been reported that a trial nonsurgical management with intravenous antibiotics and other supportive treatment, and alongside percutaneous CT-guided aspiration of localized intraperitoneal collections may be suitable and avoid the need for surgery (Levack, Madariaga and Kaafarani, 2014). However, the current treatment of choice of for perforated jejunal diverticulum causing generalized peritonitis is prompt laparotomy with segmental intestinal resection and primary anastomosis. The extent of bowel resection depends upon the length of the bowel and the patient's perioperative condition (Peraneau and S., 2013; Kassir et al., 2015). If diverticulum are extensive, resection may have to be limited to include only the segment containing the perforated diverticulum and to leave a segment of small bowel that still contains non perforated diverticula in order to avoid short bowel syndrome (Peraneau and S., 2013).

In our case the decision to perform a primary closure after diverticulectomy was based on the age of our patient, small and single perforation with adjacent jejunal tissue was vital in appearance when examined intra operatively and preoperative condition of patient with moderate sepsis.

CONCLUSIONS

Jejunal pseudo diverticula was a rare case and usually asymptomatic. However, it may lead to chronic non specific abdominal symptoms caused by chronic intestinal obstruction, as displayed by this case, it could be presented as an acute presentation. Jejunal pseudo diverticula in the elderly can lead to significant morbidity and mortality and so should be suspected in those presenting with cramp abdominal pain and altered bowel habits. Once jejunal pseudo diverticula has been diagnosed, conservative medical management should be instituted to alleviate symptoms, treat the cause of chronic intestinal obstruction and reduce the risk of complications associated with diverticular disease. Rarely, jejunal pseudo diverticular disease may present as intestinal perforation, for which surgical repair is the only treatment of choice.

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