

BLIND POUCH SYNDROME: CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Blind pouch syndrome is the set of signs and symptoms caused by intestinal content stasis and consequent bacterial hyperproliferation in a segment excluded from the intestinal flow after surgical procedure. This paper reports the case of a 65-year-old male patient complaining of diffuse abdominal pain, poor oral intake, nausea, diarrhea, fever and chills. Surgical history included cecal resection five years before due to a tubulovillous adenoma. On physical examination, the abdomen was tender and distended, without signs of peritonitis. Complete blood cells count showed microcytic anemia. Computed tomography of the abdomen revealed ileocolonic anastomosis (ascending) with blind loop presenting signs of inflammatory process. Exploratory laparotomy was indicated, in which the resection of the blind loop was performed. After gradual improvement of the symptoms, the patient was discharged in 12th post-operative day.

Keywords: *Blind pouch syndrome; case report*

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Blind pouch syndrome is the set of signs and symptoms caused by intestinal content stasis and consequent bacterial hyperproliferation in a segment excluded from the intestinal flow after surgical procedure¹. The gastrointestinal signs and symptoms are variable in occurrence and intensity². The most common symptoms are abdominal pain, nausea, vomit, diarrhea, and melena; constitutional symptoms such as fever, prostration, anorexia, and weight loss may arise as well²⁻⁵. This excessive bacterial proliferation may be a consequence of several factors related to intestinal dysmotility². A blind loop resulting from an intestinal anastomosis is the condition that most frequently causes this syndrome². The incidence of this complication is not described in the literature; nevertheless, there is an agreement that this is an uncommon condition¹⁻³. The type of anastomosis that most often causes this complication is side-to-side anastomosis, followed by end-to-side anastomosis^{2,3}. It may occur in enteroenteric, enterocolonic or colocolonic anastomosis³. The diagnosis is based on clinical manifestations, history of previous intestinal anastomosis, and imaging findings. Abdominal computed tomography (CT) is a valuable exam in these cases^{2,3}. Treatment consists of resection of the pouch involved and may include intestinal reconstruction, in which end-to-end anastomosis is preferred²⁻⁴.

CASE REPORT

A 65-year-old male patient was admitted in the emergency room presenting with a one-week history of diffuse abdominal pain, nausea, diarrhea, poor oral intake, fever, and chills. On physical examination, the abdomen was tender and distended, without signs of peritonitis. Medical history included refractory microcytic anemia, systemic arterial hypertension, and gastroesophageal reflux disease. Surgical history was the following: five years before, he had

undergone a cecal resection followed by side-to-end ileum and ascending colon anastomosis, due to a tubulovillous adenoma. Relevant laboratory findings were hematocrit 26.1%; hemoglobin 7.4 g/dL; leukocytes 8,850, 28% of bands. All other laboratory tests were unremarkable. Abdominal CT revealed alterations on right iliac fossa and presence of metallic wires on cecal topography. The anastomotic region presented signs of distension with regular parietal thickening and infiltration of the adjacent fat tissue, probably due to inflammatory process (Figure 1).

At exploratory laparotomy, serous-purulent ascites was observed, as well as an ileocolonic side-to-end anastomosis with distal ileal blind pouch (measuring approximately 18 cm in length), which presented signs of dysfunction, dilatation, edema, venous congestion, and areas covered with fibrin. The resection of the compromised ileal segment was performed with a stapler. After surgery, the patient evolved with gradual improvement of the symptoms, being discharged in the 12th post-operative day. The surgical specimen was sent to pathologic examination (Figure 2).

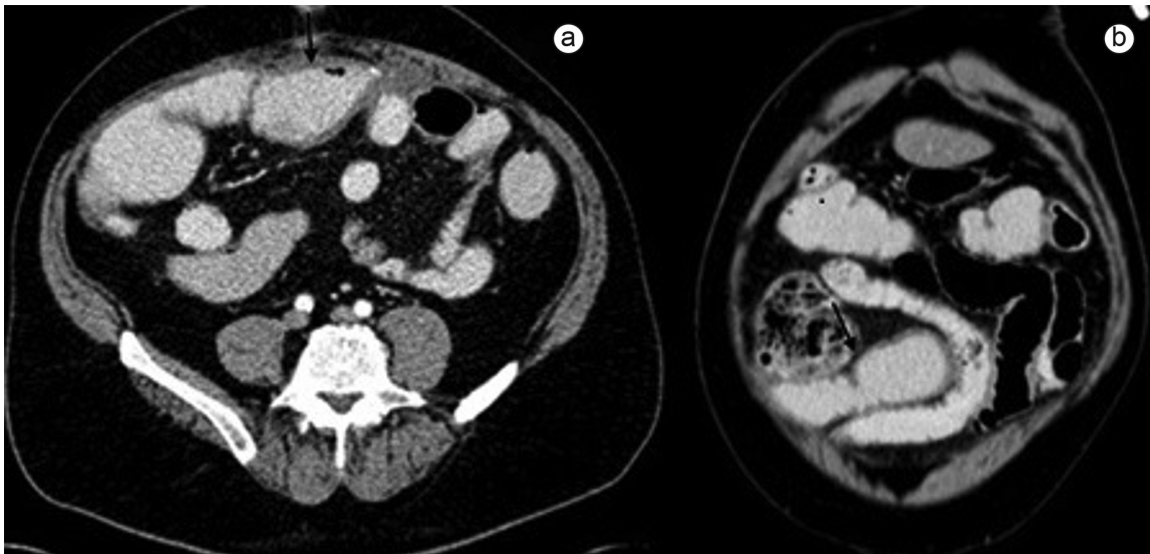


Figure 1: Computed Tomography of the Abdomen, in axial (a) and coronal (b) planes: the anastomotic region (arrows) presents signs of distension with regular parietal thickening and infiltration of the adjacent fat tissue.

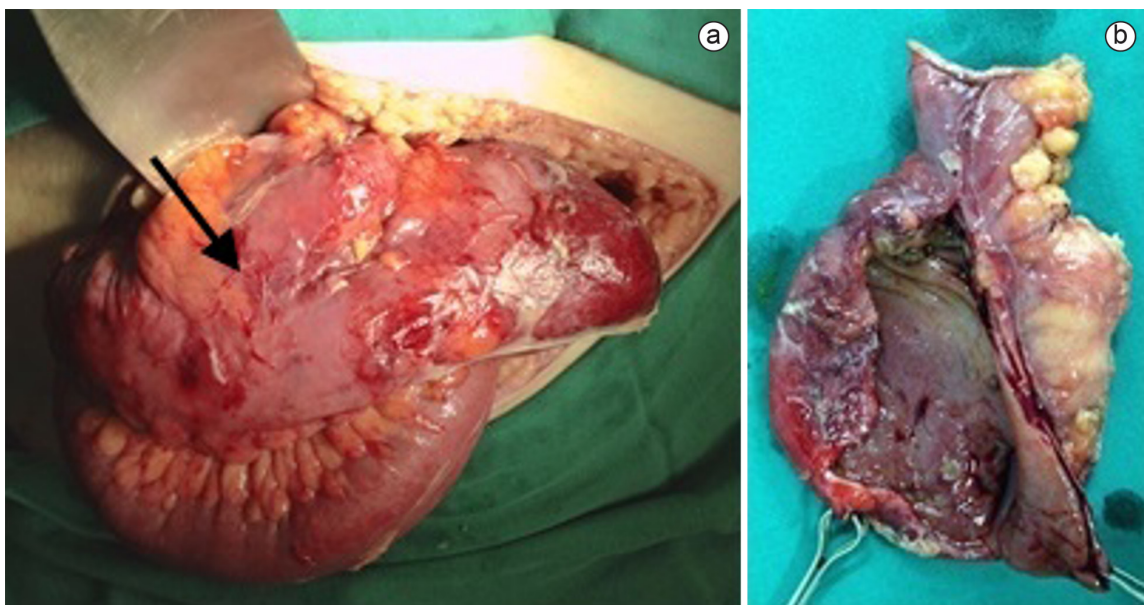


Figure 2: (a) Ileocolonic side-to-end anastomosis (arrow) with distal ileal blind loop. (b) Surgical specimen (blind loop resected).

Macroscopic examination showed small intestine portion with congested serosa and adhered fibrin, dilated intestinal lumen, and edematous mucosa with irregular folding. Microscopic examination revealed intestinal portion with granulation tissue, chronic inflammation, and suppurative peritonitis in the previous anastomotic area.

DISCUSSION

Blind pouch syndrome is characterized by bacterial proliferation within an area of intestinal content stasis¹. Creation of a blind loop, in consequence of an intestinal anastomosis, might result in this syndrome^{1,2}. The exaggerated bacterial growth may be caused by several other conditions that cause alterations of the normal intestinal peristalsis, such as systemic sclerosis, amyloidosis, diabetic autonomic neuropathy, fistulas, stenosis, and diverticulosis². There is no estimation of the incidence of the blind pouch syndrome in the literature; however, there is an agreement that this is an uncommon post-operative complication¹⁻³. The mechanism involved in this complication may be explained by the change of the direction of migratory motor complex propagation in the proximal portion of the anastomosed loop, which ends up being directed towards the blind end⁶. Consequently, normal intestinal peristalsis is altered, leading to a gradual loop dilatation⁶. The consequent stasis generates bacterial proliferation within the blind pouch, resulting in inflammation and edema on the intestinal wall⁷. Ulcerations may emerge, causing intestinal bleeding and, in extreme cases, perforations^{3,5,7}. The most common clinical manifestations include abdominal pain, diarrhea, steatorrhea, melena, anemia, weight

loss, and fever^{1,3,4}. The types of anastomosis most frequently associated with blind pouch syndrome are end-to-side, side-to-end (the one implicated in the present case), and side-to-side anastomosis (the most frequently related to this complication)². This syndrome may occur from a month to several years after surgery^{2,5}. In the case presented here, the clinical manifestations developed five years after the first surgical intervention.

The diagnosis of blind pouch syndrome is based on clinical manifestations, history of previous intestinal anastomosis, and imaging findings². On abdominal CT, the predominant findings are intestinal dilatation and thickening of the stricken intestinal portion². Surgical clips may appear adjacent to this area². Generally, there is no thickening of the adjacent mesenteric fat, unless perforation is present^{2,8}. In some cases, blind pouch syndrome may be diagnosed through endoscopic images, depending on the site of the anastomosis⁵. In the present case, abdominal CT was crucial to the preoperative diagnostic hypothesis.

In order to avoid the occurrence of this syndrome after a surgical procedure, the length of the dysfunctional intestinal segment should not exceed 2.5 cm after an intestinal anastomosis³. Definitive treatment is based on resection of the involved blind pouch and, in some cases, intestinal reconstruction with end-to-end anastomosis^{2,3,5}. The videolaparoscopic technique is also considered an option for surgical intervention⁹. In the present case, the laparotomy approach was chosen due to the severe clinical condition of the patient.

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