



The Role of Increasing Serum C-reactive Protein Level in Diagnosis of Post-surgery Small Bowel Pseudo-obstruction: A Case Report

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Abstract

Introduction: Acute colonic pseudo-obstruction (APCO), which is identified as colon dilatation without any mechanical obstruction, is a rare post-surgery complication.

Case Presentation: Herein, we report a 40-year-old woman who underwent total laparoscopic hysterectomy with no complications during the surgery. On post-op visits, she complained of vague abdominal pain, especially in the upper quadrants, with a mild abdominal distention on her physical examination. Despite normal abdominal imaging, C-reactive protein (CRP) level was rising. Although oral intake was discontinued, the abdominal distention progressed gradually, and CRP levels rose continuously. On the fifth post-surgery day, the patient was suffering from bilious vomiting. Additionally, the abdominal distention was accompanied by tenderness. Emergency laparotomy was scheduled for clinically suspected bowel problems that were resistant to conservative management. During emergency laparotomy, the small bowel was distended. Since 20 cm of ileum was ischemic due to bowel congestion, segmental resection and anastomosis were performed.

Conclusions: The CRP value can help to predict latent complications. It is also necessary to observe these patients closely to detect and manage probable post-operation complications.

Keywords: Intestinal Pseudo-obstruction, Laparoscopy, Hysterectomy, C-Reactive Protein, Colonic Pseudo-obstruction, Postoperative Complications

1. Introduction

Acute colonic pseudo-obstruction (ACPO) or Ogilvie syndrome is a rare condition identified with colon dilatation without any mechanical obstruction, usually involving caecum and right hemi-colon. ACPO usually occurs following a surgery, mostly after cesarean section, and rarely occurs spontaneously (1, 2).

The symptoms or signs of ACPO, which are related to bowel obstruction, include abdominal pain or tenderness, nausea and/or vomiting, constipation, and fever. Early diagnosis of ACPO is critical because of its subsequent morbidity, including bowel ischemia, necrosis and perforation, and colon torsion; its mortality rate can also reach 50% (3, 4).

Although pseudo-obstruction of the colon has been investigated in previous literature, to the best of our knowledge, no case of pseudo-obstruction of the ileum has been reported so far. Herein, for the first time, we report a case of pseudo-obstruction of the ileum following a total laparo-

scopic hysterectomy (TLH) treatment because of menorrhagia.

2. Case Presentation

A 40-year-old woman with a chief complaint of prolonged and heavy menstrual bleeding resistant to medication therapy was a candidate for a total laparoscopic hysterectomy at our hospital. She had a history of two cesarean sections with no remarkable past medical history.

Before the surgery, bowel preparation was performed with two dimeticon tablets and two bisacodyl rectal suppositories. Deep vein thrombosis prophylaxis with enoxaparin was given, and cefazolin was administered as antibiotic prophylaxis.

Surgery was performed under general anesthesia. There was no remarkable finding in abdominopelvic exploration. Uterus, fallopian tubes, and ovaries were normal. There were no bowel adhesions or evidence of endometri-

sis. The total operating time was 75 minutes with minimal intra-operation blood loss.

On the second postoperative day, the patient complained of rising abdominal pain in the right upper quadrant. She tolerated a liquid diet without nausea or vomiting. She also passed flatus. There was no abnormal finding in her physical exam except for a mild abdominal distention.

On the third postoperative day, she suffered from watery diarrhea. Oral intake was prohibited, and intravenous fluids were started. Her abdominal imaging, including abdominal x-ray and computed tomography (CT) scan were normal. Increasing C-reactive protein (CRP) level was the only positive finding in her lab tests.

On the fourth postoperative day, diarrhea ceased, and there was no change in abdominal distension. The abdominal pain decreased substantially. She asked for discharge, but due to a significant increase in quantitative serum CRP level, the gynecologist decided to continue hospitalization for close observation, and conservative management continued.

On the fifth postoperative day, abdominal distension progressed and bilious vomiting occurred. Physical examination demonstrated generalized abdominal tenderness. General surgery consultation was requested, and emergent laparotomy was scheduled for clinically suspected bowel problems resistant to conservative management. The rapid deterioration within 24 hours did not allow new imaging requests.

During re-operation, the previous surgical site was normal. There was no suspicious lesion of thermal injury on the rectosigmoid and colon. The small bowel was dilated and congested about 30 cm proximal to the ileocecal junction. The condition necessitated segmental bowel resection and re-anastomosis. No other bowel injury was identified. There was no mass or band, or loop to propound mechanical obstruction. Histopathology report of the resected bowel showed ischemia secondary to congestion (Figure 1A-D). The patient's postoperative course was satisfactory, and she was discharged on day 15.

3. Discussion

The definite pathogenesis mechanism of ACPO remains unclear. However, change in the balance of bowel parasympathetic and sympathetic function, secondary to predisposing clinical condition and trauma to spinal and retroperitoneal area, are the probable causes (5).

Without considering the cause of ACPO, its early detection and proportion management can significantly reduce the related morbidity and mortality following intestinal ischemia and perforation (5, 6).

Although the features of ACPO can present rapidly over the first 24 hours after the surgery, the average time for developing ACPO manifestation was five days post-operation. ACPO diagnosis is done mostly according to the patient's symptoms and signs and imaging findings. The common ACPO features include abdominal distension, abdominal pain, nausea, and vomiting (6).

However, in our case, since the functional obstruction was in the small intestine (ileum), the related symptoms progressed slowly, and abdominal, and bowel distension was not significant in early physical examination and imaging, respectively. So, the diagnosis was done according to the post-operation CRP level rising.

Former evidence investigated the important role of CRP in the early diagnosis of anastomotic leakage following colorectal surgery. Furthermore, it seems that the increasing CRP level in open or laparoscopic surgeries is an important clue to diagnose cases with major post-surgery complications (7, 8).

While it is expected after 48 hours in uncomplicated surgery, the CRP levels decrease and return to their normal ranges (9). In our study, the lack of CRP decline on day 2 after surgery was the key point for more investigation and the absence of her discharge.

ACPO after total laparoscopic hysterectomy (2) or laparoscopic appendectomy (10) were reported; in this study, we identified a rare case of ACPO following a gynecologic minimally invasive surgeries.

3.1. Conclusions

The CRP value can help to predict latent complications. It is also necessary to observe these patients closely to detect and manage probable post-operation complications.

Footnotes

Authors' Contribution: FS and MV were the patient's surgeons. SS and ZB created the first draft. FS edited the draft and helped in developing the discussion. All authors contributed to all drafts and approved the final version.

Conflict of Interests: One author (F.S.) is a member of the editorial board. The journal confirmed that the mentioned author with CoI was completely excluded from all review processes. We also introduced this author with CoI during the submission as an opposed reviewer.

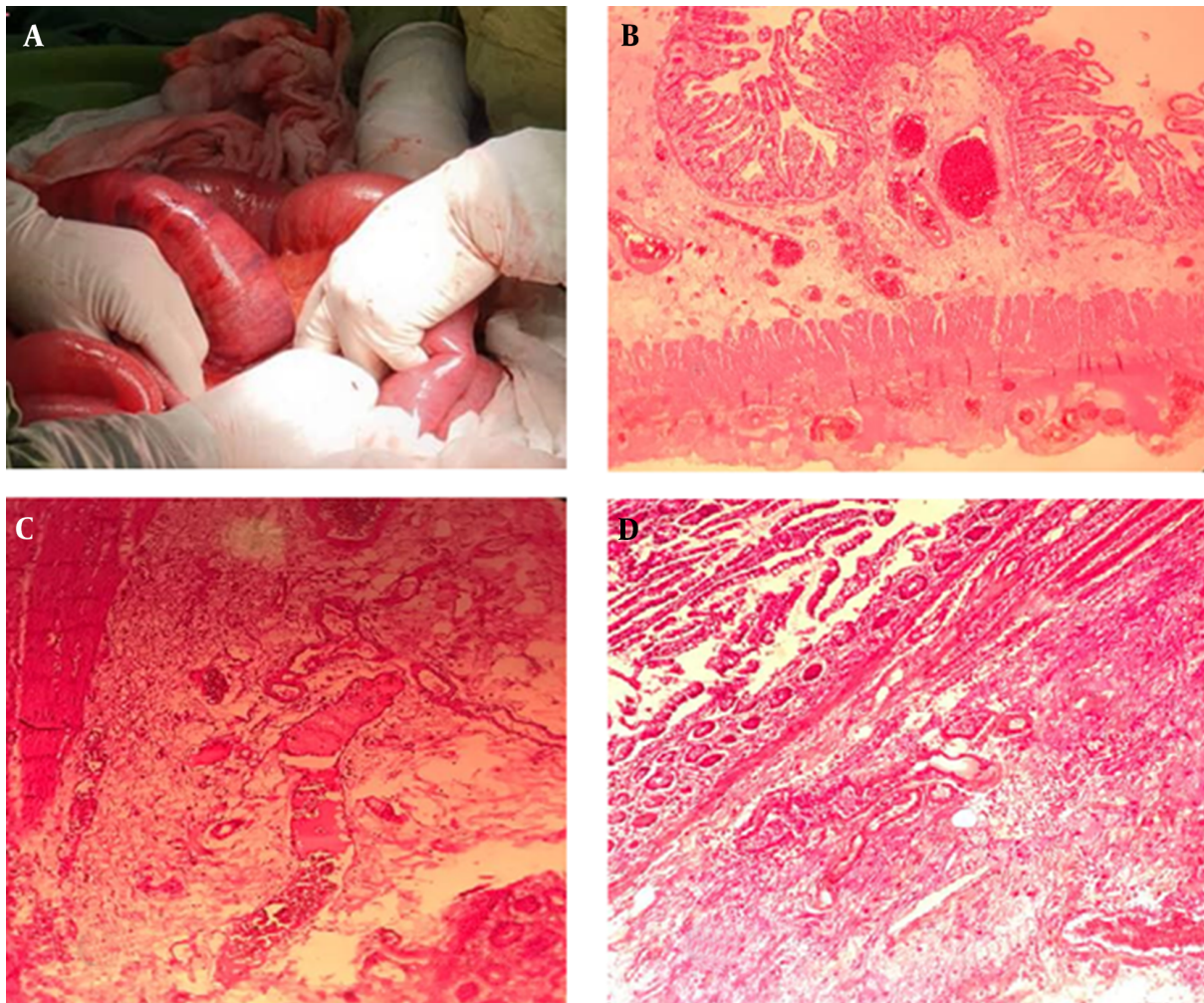


Figure 1. Intraoperative (A) and postoperative pathology (B-D) images showing ischemia secondary to congestion

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Informed Consent: Informed consent was taken from the patient. The patient's data was kept confidential.

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