

Acute colonic pseudo-obstruction (ogilvie's syndrome) or colonic perforation: A rare complication following cesarean section

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ABSTRACT

Ogilvie's syndrome or pseudo-obstruction of the colon shows up as a clinical picture of acute obstruction of the large bowel without an associated pathological lesion as usually occurs in older patients. Here, we report a case series of three cases of Ogilvie's syndrome following caesarean section. The caesarean section seems to be the most common operative procedure associated with this syndrome. The diagnosis was made by plain X-ray of the patient's abdomen, which revealed dilated gut loops or air under the diaphragm in case of perforation. The pathological cause seems to be the disturbance of the autonomic innervation of the colon. The colon should be decompressed rapidly using colonoscopy. Surgery should be reserved for cases that have complications or that have been refractory to conservative treatment. Of our three cases, one was treated successfully by colonoscopic decompression and IV neostigmine, whereas, rest two patients presented late with colonic perforation. So they were immediately taken for exploratory laparotomy.

Keywords: Colonic perforation, Colonoscopic decompression, Neostigmine, Ogilvie's syndrome, Pseudo-obstruction

Ogilvie's Syndrome or Acute Colonic Pseudo-Obstruction (ACPO) is a rare condition characterized by massive dilatation of the colon in the absence of any mechanical obstruction. The condition first described by Sir William Heneage Ogilvie in 1948 [1]. It is usually associated with medical conditions such as trauma, burns, major surgery (pelvic and orthopaedic surgery, caesarean section), pregnancy and sepsis [2]. About 10% of cases reported are related to obstetric and gynaecological procedures. One report suggests the incidence of postpartum Ogilvie's Syndrome to be 1:1500 deliveries [3].

We, hereby, presenting the case series of post-cesarean acute colonic pseudo-obstruction and colonic perforations. In this case series, the patient which presented early was managed conservatively as compared to the patients who presented late with colonic perforation needed exploratory laparotomy. So, it is emphasized that early diagnosis and management are very important to prevent the colonic perforation, if it occurs needs exploratory laparotomy.

CASE SERIES

CASE1

A 38-years-old female with gravida 2 and Para 1 underwent cesarean section and delivered a healthy baby. The patient started complaining of pain abdomen on postoperative day1, which was more on the right side of the abdomen, insidious in onset, gradually

progressive in nature and non-radiating. The pain abdomen was associated with abdominal distension and vomiting. No past history of altered bowel habits or any other chronic illness.

Initially, the patient managed conservatively with Ryle's tube which revealed bilious output and flatus tube through which feculent material was coming. The patient was temporarily relieved of symptoms and pain increased again after 1 day. So, the patient was referred to the emergency department of DMC & H Ludhiana on postoperative day 2.



Figure 1: Abdominal plain radiograph revealed significant dilatation of the caecum and ascending colon (case 1).

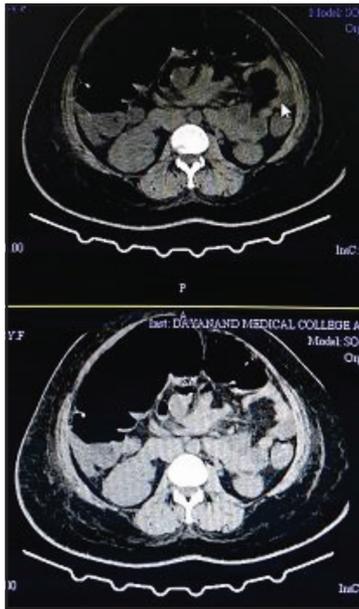


Figure 2: Contrast-enhanced Computed Tomography abdomen suggested no mechanical obstruction with prominent caecum (8.5 cm), mild dilatation of the mid transverse colon (5.7 cm) and no transition zone (case 1).

On presentation, the patient appeared to be in significant distress. Abdominal examination revealed gross abdominal distension, tenderness in the upper abdomen with palpable intestines and hyperactive bowel sounds. An abdominal plain radiograph revealed significant dilatation of the caecum and ascending colon (Fig. 1). Contrast-enhanced Computed Tomography (CECT) abdomen was done which suggested no mechanical obstruction with prominent caecum (8.5 cm), mild dilatation of the mid transverse colon (5.7 cm) and no transition zone (Fig. 2). So, the patient was diagnosed with Ogilvie's syndrome by exclusion.

The patient kept nil per orally and placed on intravenous (IV) fluids. Despite being flatus tube and nasogastric tube-in-situ, there was no relief in the obstruction. Emergency colonoscopy was planned and decompression of the colon done. Around 1100 ml fecal matter aspirated. The patient was kept under observation in the surgical ICU. There was a persistent dilatation of the colon on plain abdominal radiographs up to 9 cm and persistent tenderness on palpation. The total leukocyte count was 13,200/mm³. A single dose of Neostigmine 2.5mg was given. The patient started improving clinically, passed flatus and stools. There was a decreased dilatation of the colon on follow-up plain radiographs of the abdomen by postoperative day 7. The patient gradually started accepting orally and tolerated well. She was discharged after 10 days of hospitalization.

CASE 2

A 27-years-old female admitted in DMCH emergency with a complaint of pain abdomen which was sudden in onset and gradually increased. The pain was also associated with abdominal distension. There was a history of cesarean section 10 days

back. No past medical history. Abdominal examination revealed gross abdominal distension, diffuse tenderness in abdomen with guarding and absent bowel sounds. Abdominal plain radiographs revealed free air under the diaphragm. The patient was planned for an emergency exploratory laparotomy.

Intra-operatively, there was gross pneumoperitoneum and a single ascending colonic perforation. So, the patient was diagnosed as a case of post-cesarean colonic perforation as per intraoperative findings. Primary repair of the ascending colonic perforation with proximal Loop Ileostomy, peritoneal lavage and drainage was done. The patient improved gradually, started accepting orally and tolerating well. She was discharged in a healthy condition.

CASE 3

A 29-years-old female presented with pain abdomen for 5 days, which was sudden in onset, continuous and severe in intensity. The patient had a history of cesarean section 5 days back under spinal anesthesia and delivered a healthy male baby. No past medical history. Abdominal examination revealed abdominal distension, diffuse tenderness in abdomen with guarding and absent bowel sounds. Abdominal plain radiographs revealed free air under the diaphragm. The patient was planned for an emergency exploratory laparotomy.

Intraoperatively, there was gross pneumoperitoneum with purulent ascites and multiple caecal with ascending colonic perforations. So, the patient was diagnosed as a case of post-cesarean multiple colonic perforations as per intraoperative findings. Right hemicolectomy with ileo-transverse anastomosis was done under general anaesthesia. The patient gradually improved, passed flatus and stools. Gradually, she started accepting orally and tolerated well. The patient was discharged in a healthy condition.

DISCUSSION

The importance and life-threatening nature of Ogilvie's syndrome in the postpartum period were underlined in the 2000–2002 triennium UK confidential enquiry into maternal mortality report, which reported four deaths from it [4]. ACPO is believed to be a functional disturbance in the colonic motility secondary to an imbalance in autonomic nervous activity with an increased sympathetic tone and decreased parasympathetic tone leading to functional obstruction in the distal colon and a relaxed and dilated upper colon [5]. The stretching of mechanoreceptors within the wall of the colon activates the colocolonic reflex which further increases the sympathetic tone leading to a vicious cycle of decreased motility and dilatation. It is important to note that, although the name suggests 'Colonic' pseudo-obstruction, all the embryological derivatives of the midgut (small intestine, caecum, ascending colon and transverse colon to splenic flexure) may be dilated [6].

An erect abdominal X-ray will show dilated colon and free air if there is perforation. The average caecal diameter is approximately 6.4 cm and in 90% of the patients, there will be no post-laparotomy free air in the abdomen by the 5th postoperative day [7]. Dilatation of the colon may not be evident if there is already a perforation at the time of imaging. Computed tomography may also suggest the same findings but it has the additional advantage of detecting other possible causes for the mechanical obstruction like fecal impaction, foreign bodies, diverticulitis, tuberculosis, intussusception, adhesions, hernias, and volvulus. Leaking of contrast may not be seen in impending perforations or if the perforation is sealed off completely.

Although rare, and perforations may not always be possible to prevent, the understanding of ACPO as a cause of spontaneous bowel perforation may be life-saving for both patients and caring physicians. One review suggested the risk of spontaneous perforation is about 3% in ACPO [8]. Clinicians should be aware that perforations may occur within 24 hours and even when the caecal diameter is less than 12 cm. The symptoms and signs of ACPO may be missed in the postpartum period due to the laxity of the abdominal wall and signs like mild pyrexia, leucocytosis may occur in the normal postpartum period, which may cause a delay in the diagnosis.

An evidence-based guideline for the management of Ogilvie's Syndrome was published by The American Society for Gastrointestinal Endoscopy in 2002 [5]. According to this, after treating the reversible causes, if no improvement occurs or the caecum is more than 12 cm or remains dilated for more than 3 days, IV neostigmine is recommended. Colonoscopic decompression should be performed if there is no improvement. Surgical management should be considered if there is no improvement or suspected perforation. Although the right hemicolectomy is described in the literature for perforations of the colon in Ogilvie's syndrome after failure of the conservative treatment [9,10], mortality is high in these cases and can reach up to 50% [11].

In our case series, the patient who was diagnosed earlier, managed conservatively, whereas the patient presented late with single colonic perforation underwent laparotomy with primary repair of the perforation and proximal ileostomy. The third patient also presented late with multiple colonic perforations underwent laparotomy with the right hemicolectomy with ileocolic anastomosis. All three patients survived and were discharged in

healthy conditions. On follow-up, all three patients were doing well with routine activities and had no recurrent symptoms of obstruction.

CONCLUSION

Early diagnosis is very important to decrease the mortality and morbidity associated with the disease. In our case series, one patient presented early with pseudo-obstruction which was managed conservatively with colonoscopic decompression and IV neostigmine. While the rest of the two patients presented late with colonic perforation and underwent exploratory laparotomy. All patients improved and were discharged in healthy conditions.

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