



CASE REPORT

Ogilvie's Syndrome with Perforation Peritonitis after Caesarean Section

Vivek Manoharan¹ · Kishore G. S. Bharathy¹ · Sadiq S. Sikora¹

Received: 3 July 2021 / Accepted: 30 August 2021 / Published online: 13 September 2021
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Abstract

Acute colonic pseudo-obstruction in the immediate post-partum period, following Caesarean section is rare, and requires a high index of suspicion for diagnosis. Sometimes, rapidly progressive dilatation of the caecum can lead to perforation peritonitis. There are only a few case reports describing this important entity. Presented herein is a young primigravida, who developed Ogilvie's syndrome and peritonitis 5 days following an uneventful elective Caesarean section. Clinical details, management strategy adopted and a brief review of literature is presented to draw attention to this condition.

Keywords Acute colonic pseudoobstruction · Ogilvie's syndrome · Caesarean section · Post-partum · Cecal perforation · Perforation peritonitis

Introduction

Acute colonic pseudo-obstruction (ACPO) eponymously named Ogilvie's syndrome, is traditionally encountered in elderly, bedridden patients, who may be on anti-cholinergic medications. ACPO after Caesarean section (CS), is a rare but recognized entity that requires early diagnosis and prompt management. Discussed herein is a patient, who presented with cecal perforation and peritonitis, following ACPO in the early post-partum period.

Vivek Manoharan MS, Senior Registrar, Department of Surgical Gastroenterology & Liver Transplantation, Sakra World Hospital, Bangalore, India. Kishore GS Bharathy Mch, M.HPB Surgery, Senior Consultant, Department of Surgical Gastroenterology & Liver Transplantation, Sakra World Hospital, Bangalore, India. Sadiq S Sikora FRCS, FACS, Director, Surgical Services, Department of Surgical Gastroenterology & Liver Transplantation, Sakra World Hospital, Bangalore, India.

✉ Sadiq S. Sikora
drsadiqs@gmail.com

Vivek Manoharan
drvivek.mano@gmail.com

Kishore G. S. Bharathy
kishoregsb@gmail.com

¹ Department of Surgical Gastroenterology & Liver Transplantation, Sakra World Hospital, SY No.52/2 & 52/3, Devarabeesanahalli, Opposite Intel, Varthur Hobli, Bangalore 560103, India

Case Report

A 29 year old lady was referred from an outside facility on post-partum day 5 with progressive abdominal pain and generalised abdominal distention, since 3 days. She had undergone an elective, uneventful term CS 5 days ago for non-progression of labour. She was discharged on post-operative day 2; however she had required readmission the same day due to pain. Gynaecologists therefore, referred the patient to the surgical team in the authors' hospital, where she was subsequently resuscitated, evaluated and managed. At presentation, clinical examination was remarkable for tachycardia of 116/min; blood pressure was 110/80 mmHg, respiratory rate was 30/min. Abdomen was grossly distended and tympanitic with features of peritonitis. White cell count was $7.2 \times 10^9/L$ (neutrophils 84%). Abdominal X-ray (Fig. 1a) showed a large pneumoperitoneum. A computed tomography scan (Fig. 1b) showed pneumoperitoneum, free fluid in the peritoneal cavity, but did not give any clue towards the etiology.

After fluid resuscitation and antibiotics, patient was taken up for emergency surgery. At laparoscopy, there was gross contamination of the peritoneal cavity with fecal matter and purulent fluid (Fig. 2a). After suctioning out the air and peritoneal fluid, a midline laparotomy incision was made, and thorough lavage of the peritoneal cavity was done. Anterior wall of caecum was gangrenous and sloughed off with a perforation, measuring 5×4 cm (Fig. 2b). Margins of the

Fig. 1 **a** X-ray abdomen erect view showing air under both domes of the diaphragm with a large air-fluid level (arrow head). **b** Sagittal computed tomography section showing large pneumoperitoneum (arrow head) with free fluid (small arrow heads). Postpartum uterus is seen (black arrow)

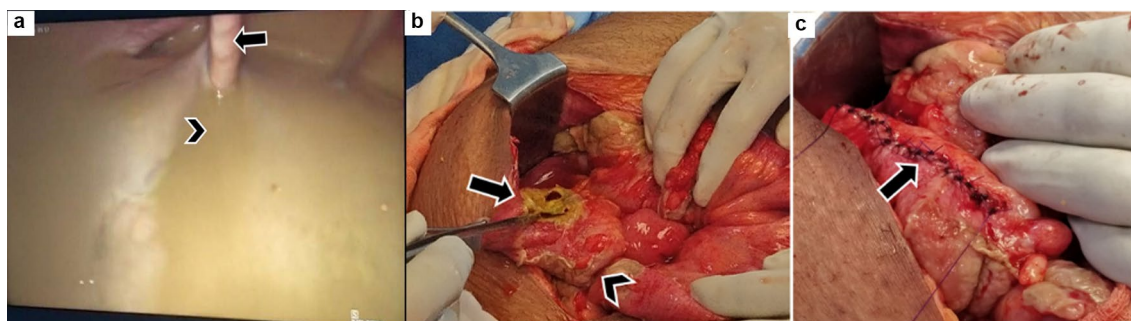
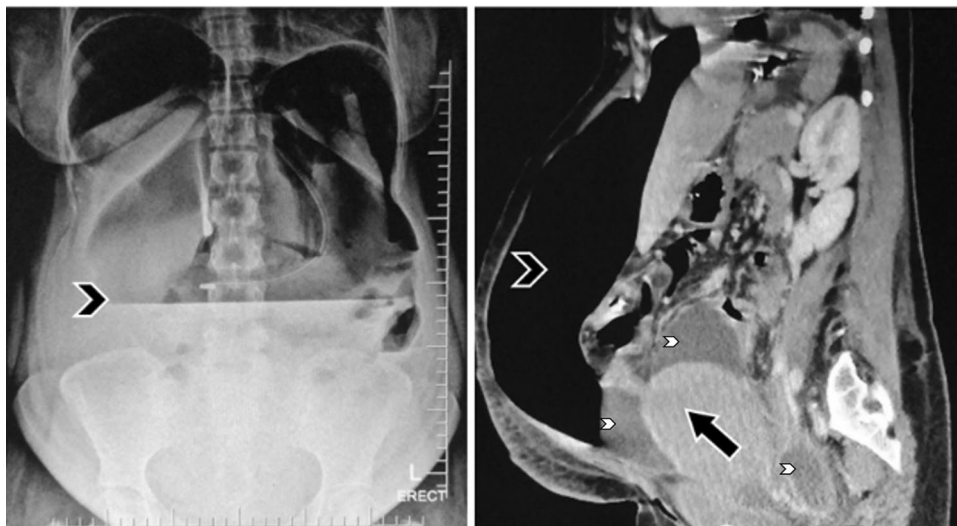


Fig. 2 **a** Laparoscopic image showing extensive free fluid with faecal contamination (arrow head). Arrow points to the falciform ligament. **b** Intra operative picture showing gangrenous anterior wall of the cae-

cum with large irregular perforation of around 5×4 cm size (arrow). Ileo-caecal junction is depicted by arrow head. **c** Edges of the perforation were freshened and closed in an interrupted fashion (arrow)

perforation were freshened and primary closure done in two layers. (Fig. 2c). A proximal diverting loop ileostomy was done in view of gross peritoneal contamination. She was managed in the intensive care unit and needed inotropes for a day. Her post-operative course was marked by drainage of left pleural effusion on day 9 and surgical site infection, which required dressings. She was discharged on day 15, and subsequently underwent closure of the loop ileostomy after 6 weeks.

Discussion

In 1948, Ogilvie described two patients, who presented with massive colonic dilatation without mechanical obstruction, due to neoplastic infiltration of the celiac and mesenteric autonomic plexuses. ACPO is seldom thought of as a cause for abdominal pain and distention in the post-operative period after CS. An abdominal radiograph will demonstrate a dilated colon without any mechanical

obstruction. The condition may progress rapidly and result in cecal perforation peritonitis, as in the index case. When the patient presented to the emergency room, it was quite evident that she had peritonitis, but the etiology was not clear. Differential diagnoses included duodenal perforation peritonitis and possible iatrogenic injury at the time of CS. However, at surgery the etiology became clear. The salient points in favour of Ogilvie's syndrome were.

- Location of the perforation –In the face of a competent ileocecal valve, the cecum bears the brunt of the pressure in ACPO and is the usual site of perforation. Also, the cecum being fixed to the retroperitoneum is unlikely to be involved in the surgical field, and hence in iatrogenic injuries during CS.
- The nature of the perforation- gangrenous patch on the anterior wall of the cecum, which had given way leading to an irregular large perforation- suggested ischemia due to massive distention.

A systematic review of case reports and case series in 2017, reported 66 cases of post-partum ACPO after 2002 [1]. Majority (92%) of the cases were following CS and no specific ante-partum or intra-partum factors were associated with ACPO. Out of these 28(43%) had perforation or impending perforation. In the same paper, it was found that all patients with a cecal diameter of more than 12 cm perforated, while only 18% with diameter less than 9 cm developed perforation. The pathophysiology of ACPO in the post-partum period is unknown. Compression of parasympathetic plexus by gravid uterus and increased sympathetic stimulation due to stretch of mechanoreceptors within the colonic wall, may result in autonomic imbalance and colonic dilatation. Pregnancy is also associated with high levels of progesterone, which can decrease the tone of the large bowel, and predispose to ACPO when combined with the stress of CS.

Management of ACPO is initially conservative. If cecal diameter increases progressively, especially to more than 9 cm, intravenous Neostigmine can be tried. If there is no/transient response to Neostigmine, colonoscopic decompression can be done. This however has a variable success rate. Surgery is reserved for patients, who are suspected to have cecal gangrene with impending perforation, or those who have already perforated [2]. The index case is unique in that, the cecum was repaired after debriding the necrosed wall. The capacious cecum allows for this without any risk of narrowing. In all cases of perforation following APCO reported till date, ileocecal resection or right hemicolectomy has been done [3]. Cecal closure is a quicker and effective surgery in an emergency setting. Presence of fecal peritonitis necessitated a diversion loop ileostomy, which was closed at a later date with a small peri-stomal incision.

Peritonitis in the post partum period can be distressing not only to the patient and her family members, but also for the treating obstetrician. Awareness of the possibility of ACPO in the post-partum period with early involvement of allied specialities with proactive management, can perhaps prevent its progression to perforation.

Author contributions Dr. VM drafted the initial version of the manuscript. Dr. VM and Dr. KGSB collected data. Dr. KGSB and Dr. SSS revised it for important intellectual content. All authors read and approved the final version. Dr. SSS is the article guarantor.

Funding None of the authors received any grants/funding to write the manuscript.

Declarations

Conflict of interest Declare no conflict of interest (financial or otherwise).

Ethical Approval This manuscript conforms to the ethical requirements as per the Helsinki declaration, 1964, and its subsequent amendments.

Data availability Data is available for review if needed.

Informed consent Written informed consent has been obtained from the patient for publication of clinical details and images; identity is not revealed anywhere.

Consent for publication All authors affirm that neither the submitted material nor portions thereof have been published previously, or are under consideration for publication elsewhere.

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About the Author



Vivek Manoharan is pursuing his three year super specialty training in Surgical Gastroenterology at Sakra World Hospital, Bangalore, India. As a year II registrar, he is the first point of contact for patients who report to the Emergency Room. He has completed his General Surgery Residency training at Madurai Medical College, India. His involvement in management of this case has prompted him to write up a report that is likely to be informative to both Obstetricians and General Surgeons.