Clinical Case Reports

WILEY

Clinical Case Reports Open Access

CASE REPORT OPEN ACCESS

Post Cesarean Section Peritonitis: A Case Report of Ogilvie's Syndrome

Mahdi Saberi Pirouz[1] | Ali Tayebi[2] | Fatemeh Sheibani[3] | Faranak Olamaeian[2]

[1]Electrophysiology Research Center, Tehran University of Medical Sciences, Tehran, Iran | [2]Firoozabadi Clinical Research Development Unit (F A CRD U), Iran University of Medical Sciences (IUMS), Tehran, Iran | [3]Laser Application in Medical Sciences Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Correspondence: Faranak Olamaeian (faranakolamaeian63@gmail.com)

Received: 5 August 2024 | **Revised:** 22 November 2024 | **Accepted:** 9 January 2025

Funding: The authors received no specific funding for this work.

Keywords: acute colonic pseudo-obstruction | cesarean section | laparotomy | Ogilvie's syndrome | peritonitis

ABSTRACT

Acute colonic pseudo-obstruction (ACPO) is characterized by colon dilation without a mechanical obstruction. This report describes a 39-year-old pregnant woman who developed ACPO following a cesarean section. Right hemicolectomy, distal ileoctomy, and enterorraphy, with subsequent ileostomy and colostomy mucus fistula placement were done. Early consideration of the disease and its diagnosis is crucial for initiating treatment instantly to maximize the benefits of non-invasive medications and minimize the need for surgical procedures and potentially life-threatening complications following a cesarean section.

1 | Introduction

Acute colonic pseudo-obstruction, also known as Ogilvie's syndrome, is a disorder characterized by acute dilatation of the colon in the absence of an anatomic lesion that obstructs the flow of intestinal contents [1, 2]. Unlike mechanical obstruction, which has a physical blockage, pseudo-obstruction occurs without any structural cause. It typically affects the cecum and right colon, although colonic dilation can extend to the rectum [3]. This condition is more common in males and patients over 60 years old, but it has also been reported in children. Common predisposing factors include severe illness, surgery, and metabolic imbalances, and certain medications [4, 5] trigger the colonic dilatation. Although the exact cause remains unclear, theories suggest that overstimulation of the sympathetic nervous system (SNS) may contribute to the lack of gastrointestinal motility. Post-surgical organ stress is a common cause of colonic dysmotility such as ileus and Ogilvie's syndrome [6–8]. Ogilvie's syndrome after different types of abdominal surgery have been reported [3, 9].

2 | Case History/Examination

A 39-year-old pregnant woman with gestational age of 37 weeks complaints of abdominal pain and nausea the day after cesarean section (C/S), on the 14th of July. Colic abdominal pain was progressive and became generalized with abdominal distention and reduced defecation. She was gravid 3, para 3 with two previous natural vaginal delivery. Also, she mentioned a history of relapsing right inguinal herniotomy which the last time was operated in 2022. Consequently, it was decided to proceed with a C/S.

Abbreviations: ACPO, acute colonic pseudo-obstruction; C/S, cesarean section.

3 | Methods

Surgical consult was requested on the 15th of July after C/S and abdominal CT-scan was done. Dilated colon was seen. Cecum diameter was over 10 cm. On her surgical reconsultation the patient was ill and had tachycardia with low blood pressure. Abdomen was tender with no distention. On the 17th of July, a midline laparotomy was performed with diagnosis of peritonitis followed by intestinal perforation (Figure 1A). Cecum was perforated and necrotic and color changes were observed on the ileum probably due to distal distention (Figure 1B). Right hemicolectomy, distal ileoctomy and enterorrhaphy were done. An Ileostomy and colostomy mucus fistula were embedded subsequential to abdominal washout and drainage of subdiaphragmatic and pelvic abscess. An omental flap was applied with adequate hemostasis at the surgical site due to the obstruction and deserosalized tissue at the site of obstruction. An enterorrhaphy was performed, and the omental flap was utilized for enhanced protection.

4 | Conclusion and Results

After operation, general condition improved. Abdominal pain reduced and surgical follow-up was recommended. Patient's general appearance was normal on the first-month and third-month follow-up and there was no complication in defecation. Physical examination had no abnormal evidence. Considering the patient's consecutive procedures, she was not mentally prepared for another operation to close the ostomy and as a result, the restoration of intestinal continuity was postponed and the patient continued to receive routine follow-up. Additionally, surgical consultations and physical examinations do not oppose the possibility of performing the procedure at a later date.

5 | Discussion

As mentioned before surgical manipulation and organ stress can affect gastrointestinal system including small intestine and colon [3, 10]. Acute colonic pseudo-obstruction is prevalent in elderly people or patient with multiple comorbidities [5]. Also, invasive and prolonged abdominal manipulation may increase the risk of the disease [11, 12]. In the discussed case, obstruction occurred the day after cesarean section. Dilated cecum and ascending colon were the typical presentation of Ogilvie's syndrome which is one of the most important post C/S complications.

To reduce the risk of colonic ischemia, perforation, and peritonitis in the patient, early diagnosis and treatment should be made. Prompt diagnosis through imaging, including CT scans, is crucial, as it aids in distinguishing Ogilvie's syndrome from true mechanical obstructions, which may present similarly but require very different management strategies [13, 14]. Although Ogilvie's syndrome is a clinical disease, any possible obstruction must be ruled out [3]. As in this patient, there were no obstruction in the imaging. Pharmacological therapy is the first and preferred choice in most cases [3, 14, 15]. Pharmacological agents such as neostigmine have emerged as effective first-line therapies, demonstrating a significant decrease in colonic diameter and improved clinical outcomes in patients with non-mechanical colonic distension [16]. Anticholinergic medication and colonoscopic decompression can be very helpful in such this situation. Previous studies have shown that intravenous and subcutaneous neostigmine can be an effective treatment for acute colonic pseudo-obstruction. Moreover, high-dose opiods are recommended in the previous literature [17–19]. However, in patients with refractory condition, failed to respond to drugs or either colonoscopic decompression, surgical treatment is needed. Surgical options for refractory cases should be carefully considered, as they are associated with variable outcomes; Thompson et.al identified that early surgical

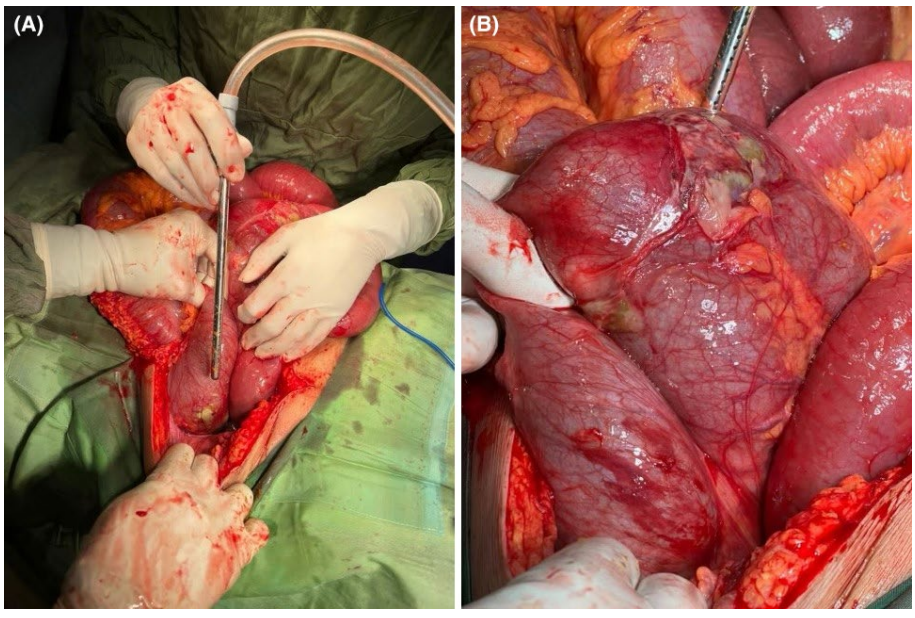

FIGURE 1 | (A) Dilated colon with evidence of necrosis. (B) Color change of necrotic area and perforation of cecum.

intervention is associated with better prognosis in patients who do not respond to conservative measures [20]. Therefore, in the present case, considering the patient's post-cesarean section status and her breastfeeding, it was decided not to use any anticholinergic medications. Depending on the patient's situation and the surgeon's decision, surgical therapy varies from cecostomy to subtotal colectomy [3, 21, 22]. According to the patient's peritonitis, an immediate surgical consultant was made and right hemicolectomy was done.

Regardless of how rare a syndrome may be, it is crucial to recognize it and prioritize evaluations accordingly. Timely diagnosis is essential, as it allows for the implementation of non-surgical procedures that can significantly benefit the patient.

Author Contributions

Mahdi Saberi Pirouz: writing – original draft. **Ali Tayebi:** data curation, writing – review and editing. **Fatemeh Sheibani:** writing – original draft. **Faranak Olamaeian:** project administration, resources, validation.

Acknowledgments

This study was financially supported by the research affairs of Iran University of Medical Sciences (Tehran, Iran, Ethic code: IR.IUMS.FMD.REC.1402.188).

Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the editor-in-chief of this journal. The patient was informed about the process and written informed consent was obtained for publication in accordance to SCARE guideline.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Private information of the patient is secured in the data center of Firoozabadi Hospital, Tehran, Iran. De-identified specific information of the patient is applicable if needed.

References

1. N. Maloney and H. D. Vargas, "Acute Intestinal Pseudo-Obstruction (Ogilvie's Syndrome)," *Clinics in Colon and Rectal Surgery* 18, no. 2 (2005): 96–101.

2. S. M. Bahouth, "Intestinal Pseudo-Obstruction (Ogilvie Syndrome)," *Essential Radiology Review: A Question and Answer Guide* 1 (2019): 293–294.

3. S. A. Aliev and E. S. Aliyev, "Ogilvie Syndrome (Acute Colon Pseudo-Obstruction) in Surgical Practice," *Koloproktologia* 20, no. 1 (2021): 77–86.

4. I. S. Bargiela, M. J. Gomes, F. B. Ferreira, A. C. Real, and A. S. Ventura, "A Rare Presentation of Ogilvie's Syndrome," *European Journal of Case Reports in Internal Medicine* 6, no. 7 (2019): 001175, https://doi.org/10.12890/2019_001175.

5. M. S. Ontan, and A. T. Isik, "Ogilvie's Syndrome: Bidirectional Effect of Hypokalaemia," *BMJ Supportive & Palliative Care* 13 (2023): e957–e959.

6. M. Etezadpour, M. Foroughian, and S. Tajoddini, "A Rare Case of Acute Intestinal Pseudo-Obstruction (Ogilvie's Syndrome) Following Open-Heart Surgery," *International Journal of Medical Investigation* 9, no. 4 (2020): 83–86.

7. K. Omran, O. Omran, and M. Shahin, "78 Acute Colonic Pseudo-Obstruction (ACPO) (OGILVIE'S SYNDROME) After Caesarean Section: A Case Report," *European Journal of Obstetrics, Gynecology, and Reproductive Biology* 270 (2022): e4.

8. M. Tellambura, M. Cumberbatch, and J. Goad, "A Case of Acute-Colonic Pseudo-Obstruction (Ogilvie Syndrome) Post Robot-Assisted Radical Prostatectomy," *Urology Case Reports* 40 (2022): 101878.

9. P. Jayaram, M. Mohan, S. Lindow, and J. Konje, "Postpartum Acute Colonic Pseudo-Obstruction (Ogilvie's Syndrome): A Systematic Review of Case Reports and Case Series," *European Journal of Obstetrics, Gynecology, and Reproductive Biology* 214 (2017): 145–149.

10. P. Pereira, F. Djeudji, P. Leduc, F. Fanget, and X. Barth, "Ogilvie's Syndrome—Acute Colonic Pseudo-Obstruction," *Journal of Visceral Surgery* 152, no. 2 (2015): 99–105.

11. K. L. Wu, K. C. Lee, H. H. Chen, and Y. C. Ou, "Recurrent Acute Colonic Pseudo-Obstruction Following Cesarean Section," *Journal of the Society of Colon and Rectal Surgeons of Taiwan* 31 (2020): 117–121.

12. E. Ford, M. Bozin, S. Shedda, J. McCormick, A. Skandarajah, and T. Cade, "Risk Factors for Acute Colonic Pseudo-Obstruction After Caesarean Section: A Retrospective Case–Control Study," *Australian and New Zealand Journal of Obstetrics and Gynaecology* 63, no. 1 (2023): 86–92.

13. C. B. Tempfer, A. Dogan, Z. Hilal, and G. A. Rezniczek, "Acute Colonic Pseudoobstruction (Ogilvie's Syndrome) in Gynecologic and Obstetric Patients: Case Report and Systematic Review of the Literature," *Archives of Gynecology and Obstetrics* 300 (2019): 117–126.

14. A. Jain and H. D. Vargas, "Advances and Challenges in the Management of Acute Colonic Pseudo-Obstruction (Ogilvie Syndrome)," *Clinics in Colon and Rectal Surgery* 25, no. 1 (2012): 37–45.

15. V. Bresadola, P. P. Brollo, M. Graziano, C. Biddau, T. Occhiali, and L. Driul, "The Rare Ogilvie's Syndrome in Pregnancy. How to Manage? A Case Report and Literature Review," *Journal of Obstetrics and Gynaecology* 42, no. 1 (2022): 1–9.

16. A. Tasleem, A. Finkelstein, and A. Waheed, "Ogilvie Syndrome, Bradycardia, and Neostigmine," *Clinical Medicine Insights. CASE Reports* 16 (2023): 11795476231184928.

17. R. J. Ponec, M. D. Saunders, and M. B. Kimmey, "Neostigmine for the Treatment of Acute Colonic Pseudo-Obstruction," *New England Journal of Medicine* 341, no. 3 (1999): 137–141.

18. H. Paran, D. Silverberg, A. Mayo, I. Shwartz, D. Neufeld, and U. Freund, "Treatment of Acute Colonic Pseudo-Obstruction With Neostigmine," *Journal of the American College of Surgeons* 190, no. 3 (2000): 315–318.

19. A. Frankel, C. Gillespie, C. T. Lu, P. Hewett, and D. Wattchow, "Subcutaneous Neostigmine Appears Safe and Effective for Acute Colonic Pseudo-Obstruction (Ogilvie's Syndrome)," *ANZ Journal of Surgery* 89, no. 6 (2019): 700–705.

20. T. Bayliss, C. Clark, and E. C. Thompson, "Ogilvie's Syndrome: Acute Colonic Pseudoobstruction. A Review for Residents," *Marshall Journal of Medicine* 10, no. 1 (2024): 5.

21. F. Olamaeian, M. Saberi Pirouz, F. Sheibani, and A. Tayebi, "Amyand's Hernia: Non Incarcerated, Inflamed Appendix in Inguinal Sac Case Report," *Journal of Surgical Case Reports* 2022, no. 9 (2022): rjac382.

22. C. R. Harnsberger, "Acute Colonic Pseudo-Obstruction (Ogilvie's Syndrome)," *Seminars in Colon and Rectal Surgery* 30, no. 3 (2019): 100690 WB Saunders.