

## Case Report

DOI: <https://dx.doi.org/10.18203/2349-2902.ijssurgery20253846>

# The role of laparoscopy in the diagnosis and management of pelvic adhesions involving the large bowel: a challenging case from a rural setting

Elias Mburu\*, Njeri D.

Department of Surgery, PEJMED Ultracare Specialist Hospital, Nyahururu, Kenya

**Received:** 22 June 2025

**Revised:** 01 September 2025

**Accepted:** 18 November 2025

**\*Correspondence:**

Dr. Elias Mburu,  
E-mail: nditiks@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

Chronic pelvic and lower gastrointestinal symptoms often pose diagnostic difficulty, especially in resource-limited settings where advanced imaging and specialized surgical services are scarce. We report the case of a 76-year-old woman with a decades-long history of progressively narrowing stool caliber and left iliac fossa pain, for whom repeated colonoscopic and radiologic investigations failed to identify a cause. Diagnostic laparoscopy revealed extensive pelvic adhesions tethering the proximal rectum to the posterior uterus. Adhesiolysis resulted in marked symptomatic improvement. This case highlights the diagnostic utility and therapeutic role of laparoscopy in detecting adhesive bowel disease, particularly in rural centres. Strengthening minimally invasive surgical capacity in such regions can greatly improve outcomes for patients with chronic, unexplained gastrointestinal symptoms.

**Keywords:** Pelvic adhesions, Laparoscopy, Adhesiolysis, Large bowel dysfunction, Rural surgery, Minimally invasive surgery

## INTRODUCTION

Adhesive disease remains one of the most common causes of chronic abdominal and pelvic symptoms, particularly among patients with a history of previous abdominal surgery. Studies indicate that postoperative peritoneal adhesions account for a significant proportion of unexplained bowel dysfunction and chronic pelvic pain globally.<sup>1</sup> Adhesions may lead to bowel obstruction, pelvic pain, infertility, and altered bowel habits.<sup>2</sup> Although conventional imaging modalities such as colonoscopy, CT scan, and barium studies are frequently employed, they are often unable to detect adhesive pathology.<sup>3</sup> Laparoscopy has emerged as an invaluable diagnostic and therapeutic modality for adhesive bowel disease, offering superior visualization and minimally invasive adhesiolysis compared to open surgery.<sup>4</sup> However, its availability remains limited in low-resource rural settings due to

equipment shortages and lack of trained personnel.<sup>5</sup> Despite concerns raised by some authors regarding its applicability in all centers and patient groups, carefully selected cases demonstrate that laparoscopy can significantly improve outcomes even in resource-limited environments.<sup>6</sup> This case report illustrates the successful use of laparoscopy in diagnosing and treating chronic pelvic adhesions involving the large bowel in a rural hospital, emphasizing the potential for safe and effective minimally invasive surgery in similar settings.

## CASE REPORT

A 76-year-old widow presented with a twenty-year history of progressively narrowing stool caliber, chronic left iliac fossa pain, and straining during defecation. She denied rectal bleeding, significant weight loss, or constitutional symptoms. Her past medical history included well-

controlled hypertension. Her surgical history was notable for an exploratory laparotomy four decades earlier for ectopic pregnancy, complicated by bowel injury requiring a temporary stoma that was later reversed. She also underwent pelvic surgery in 1994. Following these procedures, she gradually developed worsening low back pain and reduced stool caliber, prompting multiple hospital visits over the years. Investigations including two colonoscopies and a barium enema yielded normal findings. The prolonged period without a diagnosis resulted in significant psychological distress.

On examination, she appeared well-nourished and in fair general condition. Vital signs were within normal limits. Abdominal examination revealed a well-healed paramedian scar and mild tenderness in the left iliac fossa, without palpable masses or signs of peritoneal irritation. Rectal examination was normal. Laboratory investigations were unremarkable. Diagnostic laparoscopy was performed under general anesthesia. A 10 mm umbilical port was introduced for the camera, and two 5 mm working ports were placed in the lower quadrants. Intraoperative findings included extensive omental and small bowel adhesions involving the previous surgical site. Dense pelvic adhesions were identified, with the proximal rectum adherent to the posterior uterus.

Adhesiolysis was performed meticulously without bowel perforation. The patient tolerated oral intake within 24 hours and passed normal stool within 48 hours. She was discharged on the second postoperative day. At six-month follow-up, her stool caliber had normalized, her pain had resolved, and she reported significant improvement in quality of life.

## DISCUSSION

This case demonstrates the diagnostic and therapeutic benefit of laparoscopy in the management of chronic pelvic adhesive disease involving the large bowel. Adhesions involving the rectum are relatively uncommon but may cause significant bowel dysfunction and chronic pelvic pain.<sup>7</sup> The prolonged duration of symptoms and normal imaging findings in this patient reflect the known limitations of conventional diagnostic techniques in detecting adhesive disorders.<sup>8</sup> Previous studies have shown that laparoscopy provides superior visualization of pelvic structures and allows targeted adhesiolysis, resulting in symptom relief in a significant proportion of patients.<sup>9</sup> The outcomes observed in this case are consistent with published data demonstrating the efficacy of laparoscopic adhesiolysis in resolving chronic pelvic and bowel symptoms.<sup>10</sup> Laparoscopy has been associated with reduced postoperative pain, shorter hospital stays, and faster recovery times compared to open surgery.<sup>11</sup> El-Masry et al reported that adhesive bands, though difficult to visualize on imaging, are a recognized cause of large bowel obstruction and chronic symptoms.<sup>12</sup> The success of this case also highlights the potential for safe and effective laparoscopic intervention in rural settings. Literature from

low- and middle-income countries indicates that with appropriate training and basic equipment, minimally invasive surgery can be integrated into rural hospitals with excellent outcomes.<sup>13</sup> This case aligns with these findings and emphasizes the need to strengthen laparoscopic capacity in resource-limited regions.

## CONCLUSION

This case highlights the critical role of laparoscopy in diagnosing and managing chronic pelvic adhesions involving the large bowel, particularly when conventional investigations yield normal results. The significant symptomatic improvement achieved following laparoscopic adhesiolysis underscores the importance of expanding minimally invasive surgical services in rural settings. Investment in laparoscopic training and equipment can greatly enhance diagnostic accuracy and improve patient outcomes in similar environments.

## ACKNOWLEDGEMENTS

The authors acknowledge the surgical, nursing and support staff of PEJMED Ultracare Specialist Hospital.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. Alpay Z, Saed GM, Diamond MP. Postoperative adhesions: from formation to prevention. *Semin Reprod Med.* 2008;26(4):313-21.
2. Liakakos T, Thomakos N, Fine PM, Dervenis C, Young RL. Peritoneal adhesions: etiology, pathophysiology, and clinical significance. Recent advances in prevention and management. *Dig Surg.* 2001;18(4):260-73.
3. Sirovy M, Odlozilova S, Kotek J, Zajak J, Paral J. Current options for the prevention of postoperative intra-abdominal adhesions. *Asian J Surg.* 2023;S1015-9584(23)01613-5.
4. Wang J, Cheng L, Liu J, Zhang B, Wang W, Zhu W, et al. Laparoscopy vs. Laparotomy for the Management of Abdominal Trauma: A Systematic Review and Meta-Analysis. *Front Surg.* 2022;9:817134.
5. Troller R, Bawa J, Baker O, Ashcroft J. First experience in laparoscopic surgery in low and middle income countries: A systematic review. *World J Gastrointest Surg.* 2024;16(2):546-53.
6. Di Saverio S, Birindelli A, Broek RT, Davies JR, Mandrioli M, Sallinen V. Laparoscopic adhesiolysis limitations. *Updates Surg.* 2018.
7. El-Masry NS, Geevarghese R. Large bowel obstruction secondary to adhesive bands. *J Surg Case Rep.* 2015;2015(2):rju152.
8. Gash K, Chambers W, Ghosh A, Dixon AR. The role of laparoscopic surgery for the management of acute

large bowel obstruction. *Colorectal Dis.* 2011;13(3):263-6.

- 9. Parkar RB. Laparoscopic surgery in low-resource settings. *World J Laparosc Surg.* 2016.
- 10. Rajiv M, Sunil D, Sharma K, Pranil R, Satyadeep B, Nirvan R, et al. The role of laparoscopy in bowel obstruction: A retrospective study at a tertiary care hospital. *Magna Scientia Advanced Research and Reviews.* The role of laparoscopy in bowel obstruction. *Semat Schol.* 2024.
- 11. Qin X, Chen C, Liu Y, Hua XH, Li JY, Liang MJ, et al. Efficacy and safety of minimally invasive laparoscopic surgery under general anesthesia for ovarian cancer. *World J Clin Cases.* 2024;12(9):1569-77.
- 12. El-Masry NS, Geevarghese R. Large bowel obstruction secondary to adhesive bands. *J Surg Case Rep.* 2015;2015(2):rju152.
- 13. Troller R, Bawa J, Baker O, Ashcroft J. First experience in laparoscopic surgery in low and middle income countries: A systematic review. *World J Gastrointest Surg.* 2024;16(2):546-53.

**Cite this article as:** Mburu E, Njeri D. The role of laparoscopy in the diagnosis and management of pelvic adhesions involving the large bowel: a challenging case from a rural setting. *Int Surg J* 2025;12:2168-70.