International Surgery Journal
Hassanesfahani M et al. Int Surg J. 2026 Jul;13(7):1244-1246
https://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20262005

Case Report

Spontaneous interparietal posterior rectus sheath hernia presenting as small bowel obstruction in a virgin abdomen: a case report

Maryam Hassanesfahani*, Candance Wong, Nageswara Mandava, Darshak Shah

Department of General Surgery, Flushing Hospital Medical Center, NY USA

Received: 14 May 2026
Accepted: 16 June 2026

***Correspondence:**
Dr. Maryam Hassanesfahani,
E-mail: maryam.h.esfahani82@gmail.com

ABSTRACT

Spontaneous posterior rectus sheath/interparietal hernias are exceedingly rare, with only a limited number of case reports published in the literature, particularly in patients without history of prior abdominal surgery. They may present diagnostic difficulty because the herniated bowel can remain contained within the abdominal wall layers without an obvious external bulge. We report a 65-year-old woman with hypertension and asthma, with prior hysterectomy via a transvaginal approach and no prior abdominal surgery, who presented with one day of abdominal pain, nausea, vomiting, and more than 24 hours of obstipation. Laboratory evaluation showed leukocytosis of 13.3×10⁹/L, with otherwise unremarkable chemistry and coagulation studies. CT demonstrated small bowel obstruction secondary to a right upper abdominal wall hernia, with a short segment of small bowel herniating between the transversus abdominis and rectus abdominis muscles, mild upstream dilation, small bowel feces sign, and reactive simple fluid in the hernia sac. Given persistent obstruction despite initial nonoperative management, the patient underwent operative exploration. The incarcerated small bowel was reduced from an obstructed interparietal abdominal wall hernia. The bowel was viable after reduction, and no resection was required. The hernia sac was excised and the fascial defect was closed. This case highlights a rare cause of small bowel obstruction in a virgin part of the abdominal wall and emphasizes the importance of careful CT review for deep abdominal wall hernias.

Keywords: Posterior rectus sheath hernia, Interparietal hernia, Small bowel obstruction, Virgin abdomen, Abdominal wall hernia

INTRODUCTION

Posterior rectus sheath hernias are among the rarest abdominal wall hernias described in the literature, with fewer than 15-20 reported cases worldwide.[1] These hernias may cause small bowel obstruction when bowel herniates through a posterior rectus sheath defect and becomes incarcerated.[2] They may also be considered within the broader category of interparietal hernias, in which the hernia sac lies between abdominal wall layers rather than protruding into the subcutaneous tissue.[3] Unlike classic Spigelian hernias, which occur along the semilunar line lateral to the rectus muscle, posterior rectus sheath/interparietal hernias may arise more medially and dissect within the abdominal wall planes.[4] Because these hernias may not produce a visible or palpable bulge, CT imaging is essential for diagnosis.[5]

CASE REPORT

A 65-year-old female with a history of hypertension and asthma presented with one day of abdominal pain associated with nausea and vomiting. She also reported more than 24 hours of obstipation. Her surgical history was only notable for a transvaginal hysterectomy and no history of prior trans-abdominal surgery.

On presentation, laboratory evaluation demonstrated leukocytosis with a white blood cell count of 13.3×10⁹/L. The remainder of complete blood count, basic chemistry panel, and coagulation profile were within normal limits.

CT abdomen and pelvis demonstrated findings consistent with small bowel obstruction secondary to a right upper abdominal wall hernia. A short segment of small bowel was seen herniating between the transversus abdominis and rectus abdominis muscles through 1.5 cm in diameter fascial defect. Mild upstream small bowel dilation was present, with inspissated intraluminal contents compatible with the small bowel feces sign. A small amount of reactive simple fluid was noted within the hernia sac (Figure 1). Patient was initially managed nonoperatively; however, given persistent obstruction without clinical improvement, she was taken to the operating room.

A right paramedian upper transverse incision was performed. The fascia and peritoneum were identified and entered under direct visualization, avoiding injury to underlying structures. Intraoperatively, an incarcerated small bowel loop was identified within an obstructed interparietal abdominal wall hernia. The small bowel was carefully freed and reduced. Although involved segment initially appeared mildly compromised, it became pink with visible peristalsis after reduction, and no bowel resection or the anastomosis was required. The hernia sac was resected, as well as the fascial defect was closed primarily.

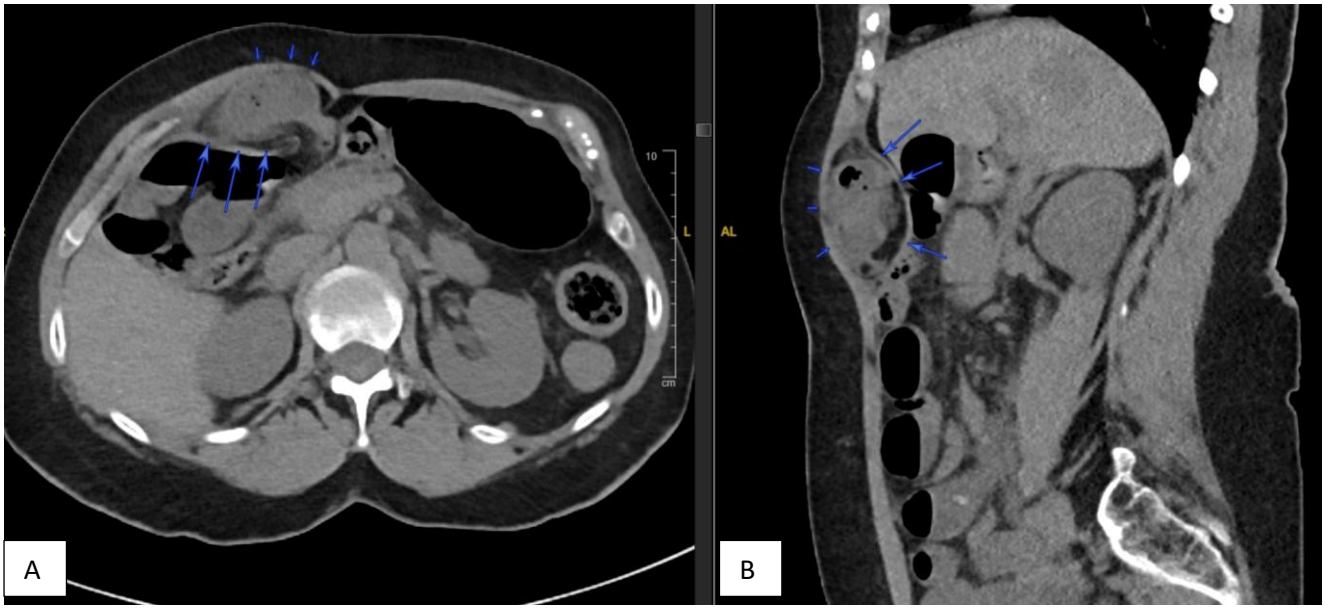

Figure 1 (A and B): Axial and sagittal CT images demonstrating a right upper abdominal interparietal/posterior rectus sheath–type hernia causing small bowel obstruction. Long arrows indicate the transversus abdominis muscle, while short arrows indicate the rectus abdominis muscle. Herniated small bowel is seen dissecting between the abdominal wall muscle layers through the fascial defect.

DISCUSSION

This case represents a rare cause of mechanical small bowel obstruction: a spontaneous interparietal/posterior rectus sheath–type hernia in a patient without prior abdominal surgery. Posterior rectus sheath hernias are rarely described, and several reports emphasize that they may present with small bowel obstruction or may be missed on initial imaging because of their deep location.[5]

The key unusual feature in this patient is the anatomy of the hernia. The CT described bowel herniation between the transversus abdominis and rectus abdominis, suggesting an interparietal pathway rather than a typical ventral hernia protruding into the subcutaneous tissue. Interparietal hernias are uncommon and are defined by herniation within the abdominal wall layers.[3]

The absence of prior abdominal surgery makes this case particularly important. Prior surgical disruption is a common risk factor for many abdominal wall defects, but spontaneous posterior rectus sheath hernias have been reported even in patients without relevant abdominal surgery.[2] In the present case, the right upper abdominal defect in a virgin abdomen supports the significance of a spontaneous upper abdominal wall hernia.

This case also differs from a classic Spigelian hernia. Spigelian hernias occur along the semilunar line, lateral to the rectus muscle, and may cause small bowel obstruction when incarcerated.[4] In contrast, this patient's hernia appears to have a more medial origin with lateral dissection into the plane between the rectus and transversus abdominis, making it better described as a spontaneous interparietal posterior rectus sheath-type hernia rather than a straightforward Spigelian hernia.

Early operative management was appropriate because the patient had persistent mechanical obstruction, reactive fluid in the hernia sac, and no improvement with initial conservative management. Similar published cases support surgical reduction and repair as definitive treatment for obstructing posterior rectus sheath hernias.[1]

CONCLUSION

Spontaneous interparietal posterior rectus sheath-type hernia is a rare cause of small bowel obstruction, particularly in patients without prior abdominal surgery. CT is essential for diagnosis because the hernia may remain contained within the abdominal wall layers without an obvious external bulge. Surgeons and radiologists should consider this entity when CT demonstrates bowel herniation within the deep abdominal wall planes. Prompt operative exploration can allow bowel preservation when viability returns after reduction.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Alshayeb F, Al-Karaja L, Yousef AMA, Taqatqa JA, Salhabb RMA, Al Mohtasib ME. Spontaneous posterior rectus sheath hernia: A case report and literature review. Int J Surg Case Rep. 2023;102:107834.
2. Loureiro R, Marques A, Constantino J, Casimiro C. Laparoscopic approach for a spontaneous posterior rectus sheath hernia. J Surg Case Rep. 2019;2019(5):rjz161.
3. Vegas A, Shea C, Sparzak P. Posterior Rectus Sheath Defect with Interparietal Hernia Causing a Small Bowel Obstruction. Case Rep Surg. 2022;2022:2616381.
4. Cesaro E, Rocco C, Rosano N, Ferrandino G, Marra E, Rispoli C, et al. "Bulb-like" sign: Small bowel closed loop obstruction in incarcerated Spigelian hernia. Radiol Case Rep. 2020;16(3):520-3.
5. Lenobel S, Lenobel R, Yu J. Posterior rectus sheath hernia causing intermittent small bowel obstruction. J Radiol Case Rep. 2014;8(9):25-9.

Cite this article as: Hassanesfahani M, Wong C, Mandava N, Shah D. Spontaneous interparietal posterior rectus sheath hernia presenting as small bowel obstruction in a virgin abdomen: a case report. Int Surg J 2026;13:1244-6.