

# Case of An Internal Herniation of Strangulated Small Bowel Related to Sacrocervicopexy with Mesh and Review of Literature

Knickerbocker Kristin<sup>1\*</sup>, Skibba Shane<sup>2</sup>, Nicholas Lago<sup>1</sup>, Gomez, Mario<sup>1</sup>

<sup>1</sup>Department of General Surgery, Broward Health Medical Center, USA

<sup>2</sup>Florida Atlantic University Charles E. Schmidt College of Medicine, USA

**\*Corresponding author:**

Knickerbocker Kristin,  
Department of General Surgery, Broward Health  
Medical Center, USA

Received: 18 Jan 2026

Accepted: 29 Jan 2026

Published: 03 Feb 2026

J Short Name: Ajsccr

**Copyright:**

©2026 Knickerbocker Kristin. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially

**Citation:**

Knickerbocker Kristin, Case of An Internal Herniation of Strangulated Small Bowel Related to Sacrocervicopexy with Mesh and Review of Literature. *Ame journal of Sur and Clin Case Rep*® 2026; V9(1): 1-4

## 1. Abstract

### 1.1. Purpose

The purpose of this case report is to provide evidence for additional investigation into the surgical steps and complications of sacrocervicopexy (SCerP).

### 1.2. Case

Patient is a 72-year-old female that was 15 months post-operative from SCerP for vaginal prolapse presenting to the emergency department with sudden onset, severe abdominal pain taken to the operating room for reduction of retroperitoneal herniation and subsequent small bowel resection for ischemic bowel.

### 1.3. Discussion

There is a scarcity of documented cases regarding retroperitoneal herniation after SCerP, resulting in lack of established guidelines for addressing the retroperitoneal defect created during the index operation.

### 1.4. Conclusion

Retroperitoneal herniation after SCerP is rarely reported. The role of retroperitoneal closure following SCerP is unclear. Further research is needed to assess outcomes following SCerP without retroperitoneal closure.

## 2. Introduction

Internal hernias, which are defined as protrusions of viscus through a peritoneal or mesenteric defect within the abdominal or pelvic cavity, are a very rare cause of small bowel obstruction (Martin 2006). Previous research has identified internal hernias in 0.6-5.8% of small bowel obstructions (Akyildiz 2009, Martin 2006). Overall, the incidence of internal herniation is estimated to be between 0.2 and 0.9% (Martin 2006). Internal hernias can be categorized based on location including paraduodenal, pericecal, foramen of Winslow, trans mesenteric, transmesocolic, intersigmoid, and retro anastomotic (Meyers 1994, Matin

2006). Although herniation through the retroperitoneum is not thoroughly described in previous literature, a case of small bowel herniation through a retroperitoneal defect following surgery in which the retroperitoneum is dissected has been described previously [1,2]. Patients who present clinically with signs of a small bowel obstruction can be assessed using CT imaging with intravenous contrast. On CT imaging, signs that are concerning for a small bowel obstruction due to a retroperitoneal hernia are similar to findings seen with other small bowel obstructions including distended loops of bowel, evidence of a transition point between dilated and decompressed loops, the presence of crowded loops of bowel in what may be a herniated sac, and abnormalities of the mesenteric vessels such as engorgement or twisting [3,4]. Abdominal sacrocolpopexy (SCP) was first described in the literature by Arthure and Savage in 1957. Since then, it has become the gold standard procedure for apical vaginal prolapse and is often performed minimally invasively using laparoscopy or robotic-assisted laparoscopy [5]. SCP is performed by suturing mesh between the anterior longitudinal ligament of the sacrum and the fibromuscular layer of the anterior and posterior vaginal walls [6]. A very similar procedure called sacrocervicopexy (SCerP) involves the attachment of the uterine cervix, as opposed to the vaginal wall, to the anterior longitudinal ligament of the sacrum. Both procedures involve dissection into the retroperitoneal space over the sacral promontory with direct attachment of a mesh graft to the anterior longitudinal ligament of the spine. The retroperitoneum is sometimes closed over the exposed graft material; however, previous literature has noted that research is lacking regarding retroperitoneal closure [7]. One study found no significant difference in outcomes regarding reperitonization of the mesh [8]. Nevertheless, some surgeons may elect to reapproximate the retroperitoneum due to the possibility of bowel obstruction, a rare complication of SCP and SCerP [9,10]. Our case describes a scenario of a small bowel

obstruction due to an internal hernia in a patient with a history of pelvic organ prolapse treated with laparoscopic SCerP.

### 3. Case Presentation

The patient is a 72-year-old female with a history of ulcerative colitis and pelvic organ prolapse treated with laparoscopic SCerP presenting to the emergency department with about 12 hours of severe bilateral lower abdominal pain associated with nausea and vomiting. The patient remained hemodynamically stable, afebrile and saturating well on room air throughout ED course. On arrival to the emergency department workup was initiated including complete blood count (CBC), complete metabolic panel (CMP), lactate level, urine analysis, chest X-ray and CT imaging of the abdomen and pelvis with intravenous contrast. There was no leukocytosis, hemoglobin was within normal limits, urine analysis and liver function was within normal limits. Lactate on presentation was 2.1mg/dL. The CT image of the abdomen and pelvis demonstrated a distended and fluid-filled small bowel with a small amount of left sided pelvic free fluid. There was also a loop of bowel in the posterior lower abdomen that had decompressed sections on either side of the loop. Differential diagnosis at this time included internal hernia, bowel perforation, or small bowel obstruction. On exam the patient had significant tenderness in the right lower quadrant without peritonitis. The patient was taken to the operating room for exploratory laparotomy. In the operating room a low midline periumbilical incision was made, and the bowel was examined from the Ligament of Treitz continuing distally. Adhesions were appreciated around the low-

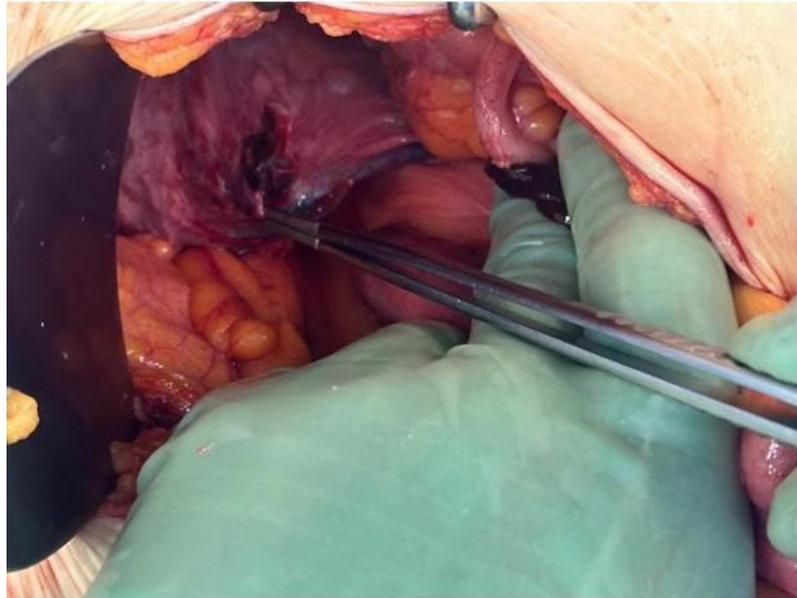
er posterior abdominal wall near to the SCerP mesh repair. There was a defect of about 3cm in the peritoneum at the site of the mesh where approximately 20cm of small bowel loop herniated and strangulated. The bowel was reduced and noted to be frankly ischemic. A small bowel resection of approximately 20cm was performed and with the remaining small bowel a side-to-side anastomosis with gastrointestinal anastomosis and thoracic-abdominal staplers was created. The peritoneal defect associated with the mesh SCerP was closed using 0 polydioxanone running suture. Abdomen was irrigated with normal saline and closed in standard multilayer fashion. The patient was transferred to PACU, extubated, and hemodynamically stable. The immediate post-operative course was uneventful. Post-operatively the patient remained NPO with a nasogastric tube awaiting return of bowel function. The patient was ambulating on post-operative day 2 and subsequently cleared by the physical therapy team on post-operative day 3. The nasogastric tube was removed after the patient began passing flatus on post-operative day 3 after a four-hour clamp trial. The diet was advanced to clear liquids on post-operative day 4. The patient's abdomen remained soft and appropriately tender throughout the post-operative course. CBC and BMP remained stable throughout the remainder of hospital stay. On post-operative day 6 patient was advanced to a regular diet, which was well tolerated. The patient at that time was passing flatus and having non-bloody bowel movement. The patient was deemed stable for discharge with appropriate follow up on post-operative day 6.



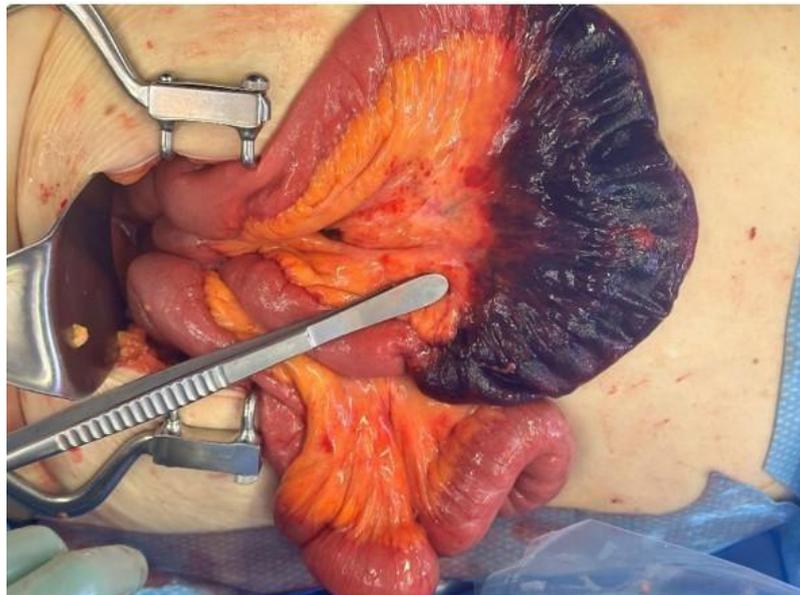
**Image 1:** CT abdomen and pelvis with contrast from initial presentation; transverse view.



**Image 2:** CT abdomen and pelvis with intravenous contrast from initial presentation; coronal view.



**Image 3:** Intraoperative peritoneal defect associated with SCerP.



**Image 4:** Intraoperative herniated small bowel after reduction of retroperitoneal hernia reduction.

#### 4. Discussion

This case presents a very rare cause of small bowel obstruction with internal herniation following laparoscopic SCerP. Although internal hernias have been seen to cause about 5.8% of small bowel obstructions [12], internal herniation through the retroperitoneum is rarely described in literature. Our review of the literature found several cases of retroperitoneal herniation [13,14], however, these examples were associated with renal transplant surgery or traumatic injury involving the retroperitoneal space. Only a couple of cases of internal herniation resulting in small bowel obstruction following SCP or SCerP have been described previously [15,16]. The mechanism underlying this case may relate to the dissection of the retroperitoneum over the sacral promontory during the SCerP. Closure of the retroperitoneum during SCP or SCerP remains controversial. However, many surgeons choose to close the retroperitoneum over the mesh due to concerns of potential small bowel obstruction. Previous studies were conducted to address these concerns and have not con-

sistently demonstrated an increased risk of obstruction without reperitonization of the mesh. This case highlights the need for further investigation into the surgical reperitonization of mesh in SCP and SCerP. Although the risk of retroperitoneal herniation following SCerP is exceedingly rare, the potential consequences may be severe. Furthermore, procedures such as SCP and SCerP are being performed more commonly as they have become the gold-standard for treating pelvic organ prolapse. Further investigation with larger study populations may be beneficial in determining the actual risk of retroperitoneal herniation following SCP or SCerP and help in reducing morbidity and mortality.

#### 5. Conclusion

There is a lack of sufficient data in the literature regarding herniation through retroperitoneal defects left after SCP or SCerP. Although rare, this case study could be used to guide the surgical standard steps in the completion of SCerP and address rare complications related to the procedure. The current standard for SCerP and SCP is to leave retroperitoneal closure up to surgeon

discretion. As there have not been many documented cases of internal retroperitoneal herniation following SCerP the standard for closure versus revision at time of hernia reduction has not been established. Further investigation is needed to assess outcomes and post-operative treatment standards for complications following SCP and SCerP in patients without retroperitoneal closure. There should be a multidisciplinary collaboration to decrease the risk of internal herniation after SCerP or SCP.

## References

1. Chambers J (2021) Small Bowel Obstruction Secondary to an Internal Hernia after a Robotic Sacrocolpopexy with Mesh. *Archiv Surg S Educ.* 2021; 3: 029.
2. Hudson CO, Northington GM, Lyles RH, Karp DR. Outcomes of robotic sacrocolpopexy: a systematic review and meta-analysis. *Female Pelvic Med Reconstr Surg.* 2014; 20(5): 252-260.
3. Trompoukis P, Nassif J, Gabriel B, Wattiez A. Internal hernia after laparoscopic sacrocervicopexy. *J Minim Invasive Gynecol.* 2011; 18(4): 525-527.
4. Akyildiz H, Artis T, Sozuer E. Internal hernia: complex diagnostic and therapeutic problem. *Int J Surg.* 2009; 7(4): 334-337.
5. Martin LC, Merkle EM, Thompson WM. Review of internal hernias: radiographic and clinical findings. *AJR Am J Roentgenol.* 2006; 186(3): 703-717.
6. Meyers MA. *Dynamic Radiology of the Abdomen: Normal and Pathologic Anatomy.* 4th ed. New York, NY: Springer Verlag. 1994.
7. Doishita S, Takeshita T, Uchima Y. Internal Hernias in the Era of Multidetector CT: Correlation of Imaging and Surgical Findings. *Radiographics.* 2016; 36(1): 88-106.
8. Meriwether KV, Gold KP, de Tayrac R, Cichowski SB. Joint report on terminology for surgical procedures to treat pelvic organ prolapse. *Int Urogynecol J.* 2020; 31(3): 429-463.
9. Whitehead WE, Bradley CS, Brown MB. Gastrointestinal complications following abdominal sacrocolpopexy for advanced pelvic organ prolapse. *Am J Obstet Gynecol.* 2007; 197(1): 78.e1-78.
10. Kulhan M, Kulhan NG, Ata N. Should the visceral peritoneum be closed over mesh in abdominal sacrocolpopexy?. *Eur J Obstet Gynecol Reprod Biol.* 2018; 222: 142-145.
11. Panico G, Campagna G, Vacca L. Redo laparoscopic sacrocolpopexy for POP recurrence: Is it the right call?. *Eur J Obstet Gynecol Reprod Biol.* 2022; 276: 63-68.
12. Huang Q, He H, Li Y, Zeng J. A rare jejunum retroperitoneal hernia case report and literature review. *BJR Case Rep.* 2020; 6(4): 20200037.
13. Wijaya MP, Hendri AZ. Retroperitoneal hernia following laparoscopic living-donor nephrectomy: a case report and review of literature. *Afr J Urol.* 2024.
14. Nawabi A, Kahle AC, King CD, Nawabi P. Small bowel obstruction due to retroperitoneal hernia following renal transplant: a case report. *J Surg Case Rep.* 2020; 2020(11): rjaa467.
15. Mueller MG, Jacobs KM, Mueller ER, Abernethy MG, Kenton KS. Outcomes in 450 Women After Minimally Invasive Abdominal Sacrocolpopexy for Pelvic Organ Prolapse. *Female Pelvic Med Reconstr Surg.* 2016; 22(4): 267-271.
16. Culligan PJ, Saiz CM, Rosenblatt PL. Contemporary Use and Techniques of Laparoscopic Sacrocolpopexy with or Without Robotic Assistance for Pelvic Organ Prolapse. *Obstet Gynecol.* 2022; 139(5): 922-932.