Asian Journal of Case Reports in Surgery

Volume 15, Issue 4, Page 23-30, 2022; Article no.AJCRS.94045

Posterior Perineal Hernia and Its Repair by Combined Laparoscopic-Perineal Approach: Clinical Case Report

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://www.sdiarticle5.com/review-history/94045

Case Report

Received: 20/09/2022
Accepted: 29/11/2022
Published: 01/12/2022

ABSTRACT

Aims: To discuss a rare type of perineal hernia and its successful repair by combining laparoscopic and transperineal approaches.
Presentation of Case: 45 years old multiparous woman presented with a gluteal swelling, progressing in size and associated with ulceration of swelling. Patient had undergone abdominal hysterectomy and ovarian cystectomy in the past. Clinical examination showed a large perineal hernia and its contents were delineated by computed tomography. Patient was offered surgical repair. Owing to large size of the sac and dense bowel adhesions inside the sac, laparoscopic reduction was complemented by perineal mobilization of the contents. Better visualization provided by laparoscopy facilitated pelvic mesh fixation with ease.
Discussion: Perineal hernias are rare and various approaches have been described for repair of perineal hernias including open transabdominal, transperineal or combined abdominoperineal

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repairs. We present a case report of posterior perineal hernia in a female patient who presented with a mass in the gluteal region. Surgical repair with synthetic mesh was performed using a combination of laparoscopic and transperineal approaches. Thus, combined approach can be beneficial to tackle large perineal hernia as described in this case report.
Conclusion: Symptomatic perineal hernias require surgery and synthetic mesh repair using combined approach (laparoscopic and perineal) allows successful repair.

Keywords: Posterior perineal hernia; surgical repair; mesh repair; laparoscopic approach.

1. INTRODUCTION

"Perineal hernia is the protrusion into the perineum of intraperitoneal or extraperitoneal contents through a congenital or acquired defect of the pelvic diaphragm. Perineal hernias may occur anteriorly or posteriorly to the superficial transverse perineal muscles. Pain in the perineal area, intestinal obstruction, topical skin erosion, and difficulty with urination necessitate the surgical repair of a perineal hernia. Repair can be accomplished through transabdominal, perineal, or combined abdominoperineal approaches. The defect in the muscles of the pelvic diaphragm may be closed either with direct suturing or by using autogenous tissues or synthetic mesh" [1].

We present a case report demonstrating the benefits of combined approach using a nonabsorbable mesh to repair the defect.

2. PRESENTATION OF CASE

2.1 Patient Information

45 years old multiparous woman presented with complaints of a perineal swelling for 4 years which progressed in size and made walking uncomfortable. Patient noted skin ulceration over the swelling a week ago. Patient gave history of multiple abdominal surgeries in the past including total abdominal hysterectomy (2007), laparotomy for left ovarian cyst removal (2011), incisional hernia repair (2013) and left gluteal abscess drainage (2013). No known comorbidities.

2.2 Clinical Findings

On examination, there was a swelling of size 15 x 10 cms in the left gluteal region emerging between the anus and left ischial tuberosity with positive cough impulse. Superficial skin ulceration was noted over the swelling. It was partly reducible. Another swelling of size 3 x 3 cms over the anterior abdomen along the midline scar in the hypogastric region, fully reducible. BMI = 28.9 kg/m^2.

2.3 Diagnostic Assessment

Her baseline blood work was within normal range. CT abdomen imaging revealed defect measuring 5.4 x 4 cms in the left side of the pelvic floor in the posterior perineum with herniation of the mesentery, small bowel loops along with the mesenteric vessels through the left ischio-rectal fossa to the exterior. There was no evidence of bowel obstruction on the imaging. Also, ventral hernia in the hypogastric region with a defect 5.4 x 5 cms containing bowel loops was evident.

2.4 Surgical Intervention

After preoperative evaluation, patient was planned for laparoscopic repair of the posterior perineal hernia. Prophylactic antibiotics and low molecular weight heparin were administered perioperatively. Patient placed under Lloyd Davis position. Pneumoperitoneum was created by inserting Veress needle at Palmar's point. 10 mm camera port was placed in the right lumbar region. 5 mm working ports were placed in the right iliac, right and left hypochondriac region. Hernial defect was noted in the left pelvic floor of size about 5 x 5 cms containing small bowel loops with its mesentery, caecum and appendix. Due to dense adhesions of bowel loops to the sac and large size of hernial sac, laparoscopic reduction was challenging. Hence, sac was opened from perineal side. Bowel loops were released from the sac and contents were reduced. Redundant sac was excised and perineal wound closure was done. Perineal defect was covered with dual composite mesh 15 cms diameter and anchored with 2-0 prolene sutures over pelvic brim placed laparoscopically. Ventral hernia repair was performed simultaneously. Surgery lasted for three hours. She tolerated diet by postoperative day (POD) 2, opened bowel and was discharged on POD 6.

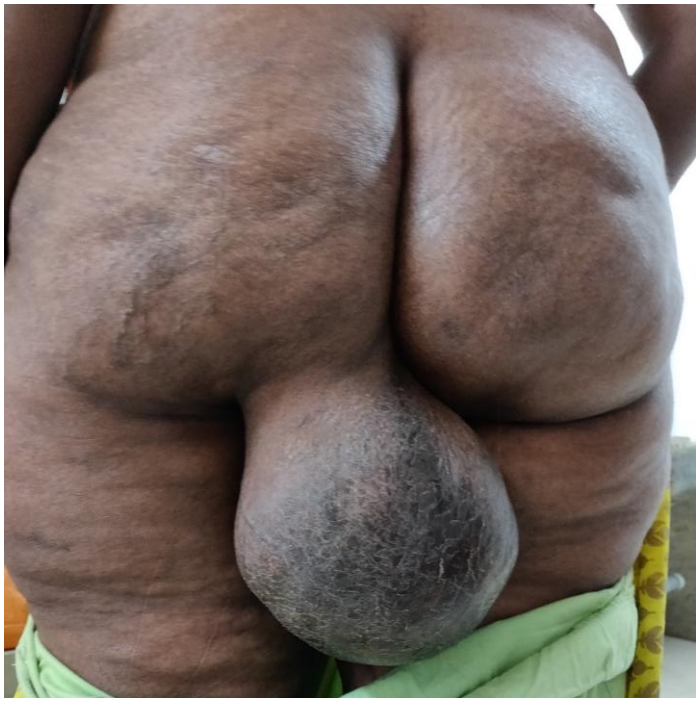

Image 1. Preoperative image (patient is standing)

Image 2. Computed tomography of pelvis taken preoperatively (sagittal view with yellow line highlighting the hernia sac)

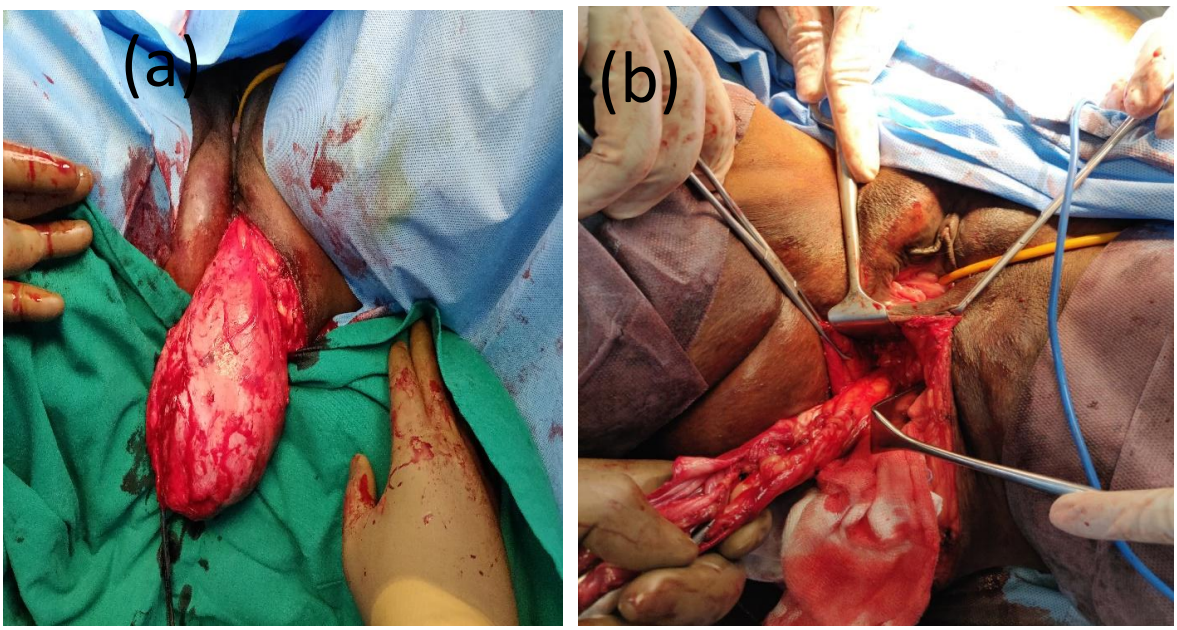

Image 3. Peroperative view by perineal approach. (a) hernial sac before opening. (b) hernial contents being mobilized after excision of redundant sac

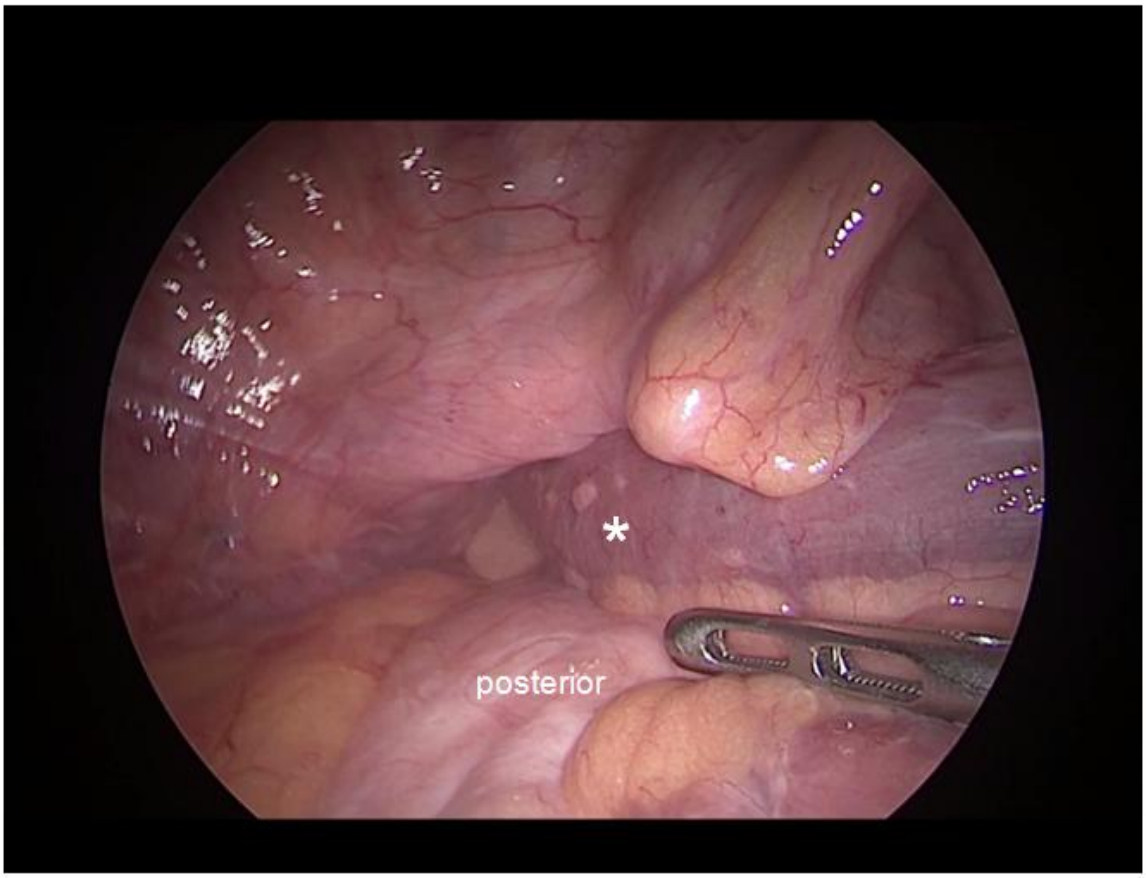

Image 4. Intraoperative view by laparoscopy before reduction of contents
** - denotes small bowel protruding into the defect*

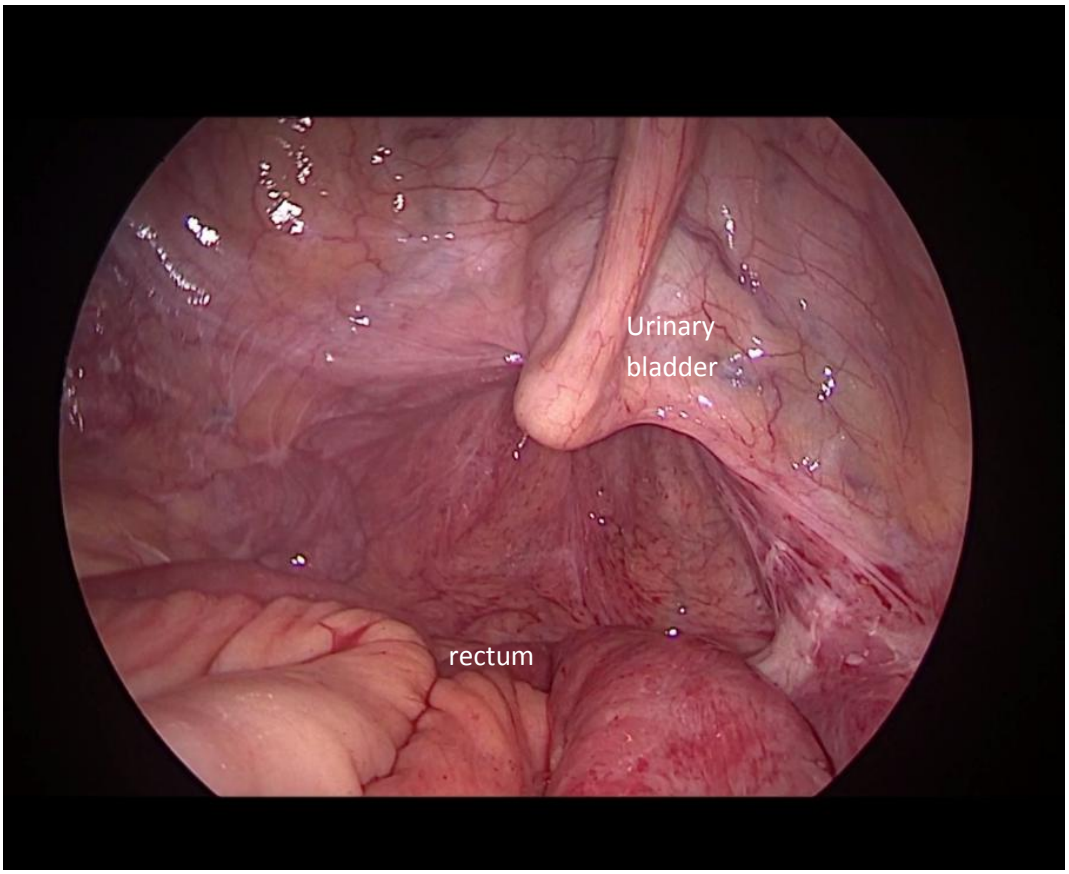

Image 5. Intraoperative view by laparoscopy after reduction of contents

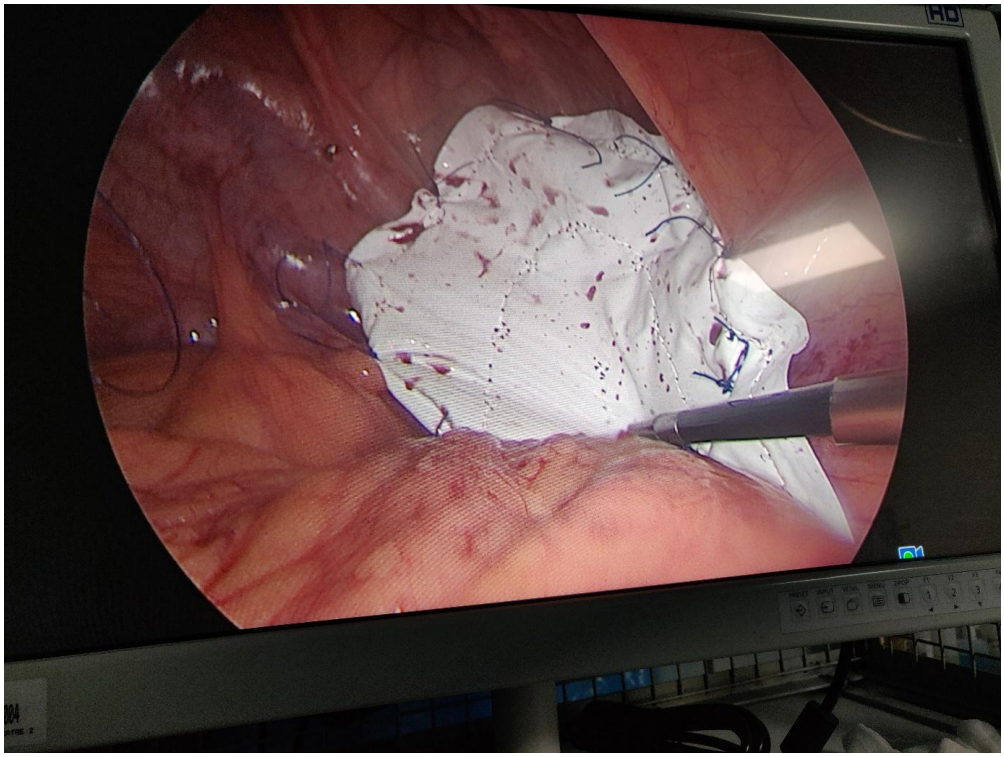

Image 6. Laparoscopic view of mesh being placed

Image 7. Computed tomography of pelvis taken postoperatively (sagittal view): no recurrence 3 months postoperatively

2.5 Follow-up and Outcome

Patient presented on POD 7 with abdominal distension, 3 episodes of non-bilious vomiting, constipation and not passing flatus. Clinically, soft non-tender distended abdomen with sluggish bowel sounds was noted. X-ray abdomen showed dilated small bowel loops suggestive of sub-acute intestinal obstruction. Patient was managed with naso-gastric decompression, iv fluids and analgesics. The episode settled with conservative management and patient was discharged. 3-month follow-up CT scan showed resolution of hernia completely and no recurrence. One year follow-up showed no evidence of hernia recurrence.

3. DISCUSSION

"Primarily acquired perineal hernias are caused by factors associated with increased intra-abdominal pressure. They are more common in females as a result of the broader female pelvis and the attenuation of the pelvic floor during pregnancy and childbirth. Secondarily acquired perineal hernias are incisional hernias associated with extensive pelvic operations such as abdominoperineal resection of the anorectum and pelvic exenteration" [1].

"The identified predisposing factors for perineal hernia are: female gender, smoking, immunosuppressive therapy, extensive pelvic resection especially pelvic exenteration, previous hysterectomy, presence of infections and history of pelvic chemoradiotherapy" [2] [3] [4]. The reported patient had following predisposing factors for perineal hernia: female gender and history of hysterectomy.

"Surgical repair of perineal hernia is indicated for symptomatic control as well as prevention of

complications such as small bowel obstruction and strangulation" [3]. "The principles of repair are the same in different approaches, which involve reduction of hernia contents, dissection and isolation of the fascial defect, and reconstruction of the pelvic floor" [5]. "There is no single best treatment approach. Perineal hernias can be repaired through transabdominal, perineal, or combined abdomino-perineal approaches" [6].

Each approach has its own advantages and disadvantages. Trans-abdominal approach provides optimal exposure for dissection and reduction of hernia sac, better mesh fixation but more morbid than perineal approach. Difficult mesh fixation is a disadvantage in the perineal approach. Combined abdomino-perineal approach is best suited for complex cases [1].

"Laparoscopy has the advantage of quicker recovery time, faster recovery of bowel function, and decreased immunological stress while offering the same advantages as open abdominal surgery. It allows better exposure for dissection of the contents of the hernia sac, hernial boundaries and pelvic contours. It also provides good access for mesh positioning on solid structures, such as the sacrum and pelvic floor" [7,8]. Using these over the last few decades, successful perineal hernia repair has been reported by use of laparoscopy. A combined laparoscopic mesh repair approach with plastic resection of the cutaneous perineal wound has also been reported [7,9,10,11].

Pelvic floor defect requires prosthetic materials as floor is deficient in long standing cases and mesh repair is favored over simple approximation of the defect. "In 2012, Mjoli et al. systematically reviewed 43 cases of postoperative perineal hernia including 22 patients treated via a perineal approach, 11 patients treated via an open abdominal approach, 3 patients treated via an open abdominoperineal approach, 2 patients treated via a laparoscopic-perineal approach and 5 patients treated by laparoscopy alone. These authors reported the superiority of mesh repair compared to non-mesh techniques in terms of recurrence" [12].

In this reported case, the pelvic defect was large and adhesions had developed between the sac and its content due to long standing duration. Owing to large size of the sac and dense bowel adhesions inside the sac, laparoscopic reduction was more challenging in this case. Mobilization of contents as well as adhesiolysis was achieved by approaching the sac from perineal side. Better visualization provided by laparoscopy facilitated pelvic mesh fixation with ease. Thus, combined approach was beneficial to tackle this large perineal hernia with adhesions.

4. CONCLUSION

In conclusion, symptomatic perineal hernias require surgery and synthetic mesh repair using combined approach (laparoscopic and perineal) allows successful repair.

CONSENT

All authors declare that 'written informed consent was obtained from the patient for publication of this case report and accompanying images.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/94045