Primary anterior perineal hernia: A case report and review of the literature

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Abstract
Perineal hernia is a type of pelvic floor hernia and an extremely rare pathologic state. Perineal hernias can be classified into anterior and posterior types according to their positional relationship to the superficial transverse perineal muscle. A 49-year-old woman presented with bulging of the right labium major while standing. Standing external ultrasonography revealed a mass in the bulge, which could not be identified by transvaginal ultrasonography, CT, or MRI. Although hernia content could not be identified preoperatively, the patient was given a diagnosis of primary perineal hernia and underwent laparoscopic repair. Symptoms resolved postoperatively, and no sign of relapse has been noted for 8 months postoperatively. Here, we report the case details and review previous case reports.

KEYWORDS
laparoscopic repair, primary anterior perineal hernia, primary perineal hernia

1 | INTRODUCTION
Pelvic floor hernia is extremely rare, particularly obturator, perineal, and sciatic hernias.1 Primary perineal hernias occur most commonly in individuals aged 40 to 60 years and are five times more common in women than in men.1 Controversy remains regarding treatment, with various surgical approaches and hernia repair techniques reported in the literature. This appears to be due to varying sites and sizes of hernial orifices and the anatomical complexity of the pelvic floor. Therefore, it currently appears to be necessary to individualize treatment strategies for each case.

2 | CASE PRESENTATION
For 5 months before presentation, a 49-year-old woman (BMI, 18.7 kg/m²) noticed pudendal discomfort and swelling that occurred after prolonged standing. She consulted our hospital because the discomfort had recently progressed to pain while standing. On presentation, a thumb tip-sized mass was seen in the right labium major while standing. Standing external ultrasonography revealed a mass in the bulge, which could not be identified by transvaginal ultrasonography, CT, or MRI. Although hernia content could not be identified preoperatively, the patient was given a diagnosis of primary perineal hernia and underwent laparoscopic repair. Symptoms resolved postoperatively, and no sign of relapse has been noted for 8 months postoperatively. Here, we report the case details and review previous case reports.

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observed on images taken with the patient in the standing position with abdominal pressure (Figure 2).

Although the hernia content could not be identified, the mass was diagnosed as a primary acquired anterior perineal hernia, and laparoscopic repair was performed. A 2-cm hernial orifice was found in the pouch of Douglas; the lumen extended toward the perineal region as confirmed by insertion of forceps into the orifice (Figure 3). The hernial orifice was closed by using nonabsorbable sutures, with additional closure of the uterosacral ligament with nonabsorbable sutures. The patient was discharged from the hospital 3 days postoperatively and has been symptom-free for 8 months as of this writing.

3 | DISCUSSION

Pelvic floor hernia is rare, and perineal hernia is an extremely rare pathologic state that surgeons might encounter once in their career, if ever. Stamatiou et al reported that Garangeot was the first to publish a case of primary perineal hernia in 1743. To our knowledge, Thomas first classified vaginal hernias into five groups in 1885. Furthermore, in 1940, Wilensky and Kaufman classified pelvic floor hernias as extravaginal, peritoneal vaginal, perineal, hydrocele, pudendal, and pelvic quasi hernias.

Perineal hernia mainly occurs secondary. Many secondary perineal hernias occur after perineal gland operation within 1 year of the antecedent surgery.

Anterior perineal hernia occurs in the triangle-shaped urogenital diaphragm surrounded by the ischiocavernosus, bulbocavernosus, and superficial transverse perineal muscles, and it affects only women. Because the anterior hernia is located in the urogenital diaphragm, the typical clinical symptom is prolapse around the labia. Critical cases advance to incontinence. For posterior perineal hernia, the typical symptom is a unilateral bulging in the gluteal or perineal region. In the present case, the patient had bulging of the labium major and was diagnosed with primary acquired anterior perineal hernia.

Clinical diagnosis of perineal hernia can be made using sonography, CT, MRI, and herniography; an upright position during examination enables
| Case | Author                  | Reported year | Age (y) | Gender | Congenital or acquired | Position | Symptom                  | Hernia content | Surgical approach | Procedure                    |
|------|-------------------------|---------------|---------|--------|------------------------|----------|--------------------------|-----------------|-------------------|-------------------------------|
| 1    | Kondo                   | 1936          | 26      | Female | Ac                     | P        | Bulging                  | Bowel           | Abdominal           | Suture                       |
| 2    | Hirata                  | 1947          | 40      | Female | Ac                     | P        | Bulging                  | Bowel           | None               | Conservative                 |
| 3    | Amos                    | 1951          | 40      | Female | Ac                     | P        | Bulging                  | Small bowel     | Abdominal           | Suture                       |
| 4    | Richard and Ruben       | 1968          | 53      | Male   | Ac                     | P        | Bulging                  | Sigmoid colon   | Abdominal           | Suture                       |
| 5    | Thomford and Sherman    | 1969          | 66      | Male   | Ac                     | P        | Rectal pain              | Small bowel     | None               | Conservative                 |
| 6    | Coussement et al        | 1978          | 0 (day 0) | Female | C                      | P        | Bulging                  | Rectum          | N/A               | N/A                          |
| 7    | Coussement et al        | 1978          | 0 (day 2) | N/A    | C                      | P        | Bulging                  | N/A             | N/A               | N/A                          |
| 8    | Sato et al              | 1979          | 44      | Female | Ac                     | A        | Bulging + pain           | N/A             | Abdominal           | Suture (recurrence)          |
| 9    | Vincent et al           | 1984          | 70      | Female | Ac                     | P        | Painful mass             | Rectum          | Abdominal           | Suture + muscle flap         |
| 10   | Hubbard and Egelhoff    | 1989          | 0 (day 1) | Female | C                      | P        | Bulging                  | Colon           | N/A               | N/A                          |
| 11   | Edward et al            | 1990          | 68      | Male   | Ac                     | P        | Bulging                  | Sigmoid colon   | N/A               | N/A                          |
| 12   | Rebecca et al           | 1992          | 64      | Female | Ac                     | P        | Constipation             | Sigmoid colon   | Abdominal           | Mesh                         |
| 13   | Ito et al               | 1994          | 67      | Female | Ac                     | P        | Bulging                  | N/A             | Abdominal           | Suture + broad ligament of uterus patch |
| 14   | Padilla et al           | 1999          | 35      | Female | Ac                     | A        | Bulging                  | N/A             | Perineal           | Mesh                         |
| 15   | Yagi et al              | 2000          | 47      | Female | Ac                     | A        | Bulging                  | N/A             | Laparoscopy         | Mesh                         |
| 16   | Kuroki                  | 2001          | 72      | Female | Ac                     | A        | Bulging                  | N/A             | Abdominal           | Suture + mesh               |
| 17   | Amano                   | 2002          | 68      | Female | Ac                     | P        | Discomfort               | Sigmoid colon   | Abdominal           | Suture                       |
| 18   | Mara et al              | 2005          | 68      | Female | Ac                     | P        | Discomfort               | Sigmoid colon   | Abdominoperineal     | Mesh                         |
| 19   | Preiss et al            | 2006          | 75      | Female | Ac                     | P        | Back pain                | Small bowel + omentum | Abdominal           | Suture                       |
| 20   | Dirk et al              | 2006          | 67      | Female | Ac                     | P        | Protrusion               | Small bowel     | Abdominal           | Suture + mesh               |
| 21   | Jessica et al           | 2009          | 57      | Female | Ac                     | P        | Fullness + pain          | Small bowel     | Laparoscopy         | Suture                       |
| 22   | Washiro et al           | 2010          | 81      | Female | Ac                     | P        | Discomfort               | Small bowel     | Abdominal           | Uterus patch                 |
| 23   | Sorelli et al           | 2011          | 45      | Female | Ac                     | A        | Discomfort               | N/A             | Laparoscopy         | Mesh                         |
| 24   | Dragan et al            | 2012          | 0 (day 0) | Female | C                      | P        | Bulging                  | Rectum          | Perineal           | Suture                       |
identification and anatomic association of the protruded bowel segment. Sometimes, perineal hernia may be mistaken for lipoma, fibroma, Bartholin cyst, rectocele, cystocele, or rectal prolapse. In our case, imaging showed no atrophy or pelvic floor muscular defect, and local external ultrasonography could visualize but not identify the hernia content.

Various approaches using mesh for closure of the pelvic defect have been reported for perineal hernia surgical repair, but the ideal approach has yet to be established. Sorelli et al recently reported the advantages of the laparoscopic approach in perineal hernia repair.7 Ghellai et al and Franklin et al reported a laparoscopic approach using such mesh for pelvic defect closure.8,9 For repair, direct suturing is considered an effective option, but it should be used with care because of its associations with relapse.10 Cali et al reported a recurrence-free case using nonabsorbable mesh repair for a large pelvic floor defect.1 Simple approximation of the defect may be feasible in some cases, but in long-standing cases, the pelvic floor is deficient and requires autologous or prosthetic materials. In our case, we chose laparoscopic surgery. We identified a hernial sac extending up to the labium from the pouch of Douglas. Because the hernial orifice was small and the patient was young and could possibly undergo surgery for uterine myoma or other pelvic surgery in the future, we opted to use a double suture closure method consisting of direct suturing plus uterosacral ligament suturing, instead of mesh. No sign of relapse has been noted for 8 months postoperatively.

Table 1 summarizes 29 retrievable case reports of primary perineal hernia with detailed descriptions, including our case. There were 4 congenital and 25 acquired cases. All six cases of anterior perineal hernia were in women; our case is the latest report of the anterior type. There were 23 cases of posterior perineal hernia. All the congenital cases were of posterior type. Most cases initially manifested with bulging. Hernia content comprised intestine in most cases. Prolapse of the urinary bladder or greater omentum was noted in rare cases. Surgical approaches included transabdominal in 13 cases, transperineal in 2 cases, abdominoperineal in 2 cases, and laparoscopic in 5 cases; an additional two cases were managed by follow-up observation without surgery. Hernia relapse was reported in one case of anterior perineal hernia treated via a transabdominal approach using suture closure.10 The relapse occurred 18 months postoperatively and was treated with repeat surgery via a perineal approach. Mesh was used in 10 cases and placed via an abdominal approach in most cases, except for one case in which a perineal approach was used.

We reported this very rare case of primary acquired anterior perineal hernia as we believe it was a valuable clinical experience worth sharing.
DISCLOSURE OF INTERESTS
The authors have no conflicts of interest to disclose and received no funding for this report.

ETHICS STATEMENT
This study received institutional review board approval, and it conforms to the provisions of the Declaration of Helsinki. The subject gave informed consent, and patient anonymity was preserved.

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SUPPORTING INFORMATION
Additional supporting information may be found online in the Supporting Information section at the end of this article.

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