



A Rarity Seen in Female Inguinal Hernias

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Summary

A thirty-year-old lady presented with left lower abdominal pain radiating to the groin for one day. The pain was associated with a left groin swelling. On examination there was a 3 × 3 cm globular, non-fluctuant, tender and irreducible swelling in the left groin, with a positive cough impulse. Examination of the other hernial sites were normal. She underwent a diagnostic laparoscopy proceed left inguinal exploration and hernia repair. Intraoperatively there was left indirect inguinal hernia with the left ovary, fallopian tube and ectopic rudimentary horn of the uterus as contents. Her post-operative period in the ward was uneventful and she was discharged on the fourth post-operative day.

Background

The incidence of an inguinal hernia in a female is a rarity. The incidence of inguinal hernia in a female is reported as 1.9% with a male to female ratio being 6:1. In women non-palpable hernias often remain undiagnosed, if they are asymptomatic for the same. In pregnancy there is documented evidence of the right side (68%) being more commonly involved than the left side (23.4%) and bilateral involvement in 8.5%. The cause for an indirect inguinal hernia, is probably congenital weakness of the internal abdominal ring. The sac is formed by the unobliterated portion of the prenatal peritoneal invagination of the canal of Nuck, that runs along and partly covers the round ligament. In young infants nearly 15% of all the hernias are incarcerated. The exact etiological factors for inguinal hernias in females continue to remain a mystery. Previously thought risk factors like appendectomy, abdominal operations, and multiple deliveries are not

associated with inguinal hernias. We report a case of a 30-year-old lady who underwent an operation for the same and delivered a normal baby boy one year post-operatively.

Case Presentation

A 30-year-old lady presented with left lower abdominal pain radiating to the groin for one day associated with a left groin swelling. There was no history suggestive of either obstipation or constipation. On examination there was a 3 × 3 cm globular, non-fluctuant and irreducible swelling with a positive cough impulse. Examination of all other hernia sites were normal. There were no scars over the abdomen or the groin bilaterally, from previous operations. She did not have any co-morbidities like hypertension or tuberculosis. She was a housewife and did not give any history of carrying heavy loads. There was no similar history in her family members.

Investigations

She underwent an ultrasonography of the abdomen and pelvis which revealed a left inguinal defect of 21 mm with herniation of left ovary and fallopian tube and omentum into the sac (figure 1).

Differential Diagnosis

The differential diagnosis that was initially considered was that of a strangulated femoral hernia, due to the location below and inferior to the pubic tubercle. The other differential diagnosis that were kept in mind were a mesothelial cyst, cystic lymphangioma or inguinal lymphadenopathy.

Treatment

She underwent a diagnostic laparoscopy proceed left inguinal open hernia repair with left inguinal exploration.

Intra-operatively there was an indirect left inguinal hernia which contained the left ovary and fallopian tube and an ectopic rudimentary horn of the uterus (figures 2-3). The left ovary was gangrenous and the left tube was oedematous and stretched into the sac. On laparoscopy, the right tube and the right ovary were normal with the uterus displaced to the right side.

A left salpingo-oophorectomy with excision of the rudimentary horn of the uterus was performed. The posterior wall of the inguinal canal was plicated with 2-0 polyglactin and a prolene mesh was cut to shape and sutured to the inguinal canal inferiorly and the conjoint tendon super-medially. The external oblique apponeurosis was sutured with 3-0 polyglactin and the skin was approximated with staples. The port sited were sutured with Portt Vicryl and the skin approximated with staples.

Histopathology report confirmed the contents of the inguinal canal as the left ovary and fallopian tubes with features of torsion present.

Outcome and follow up

Her post-operative period was uneventful. She was started on a normal diet the following day and recovered well. She was discharged on the fourth operative day in a stable condition. There has been no recurrence of the hernia, and she and conceived and delivered a healthy baby boy by normal delivery following the hernia repair.



Figure 1



Figure 2



Figure 3

Discussion

Inguinal hernia in a female is a rarity with the reported incidence in literature being 1.9%.^[1] In females all indirect inguinal hernias occur as indirect protrusions. Most of these are however

sliding hernias. There are no known risk factors for occurrence of inguinal hernias in women. Most of the published literature on female inguinal hernias have emphasized on the unique but stronger inguinal anatomy in females.^[2] This fact probably shares light of the rarity of female inguinal hernias, but really does not answer the question as to why few females acquire an inguinal hernia. The contents of the inguinal hernia may at times surprise the operating surgeon. The hernia sac is reported to have contained a number of varied intra-abdominal viscera including, the appendix, urinary bladder and even an incarcerated bladder diverticulum.^[3] In patients who have presented with painful inguinal swellings, especially those with no complaints of bowel obstruction clinically, or radiologically, the risk of other intra-abdominal disease processes should be kept in mind.^[4] Entrapment of adnexae in an indirect inguinal hernia in an adult women is a rare entity. Sliding hernias with the fallopian tubes, ovaries, and uterus occasionally occur in the newborn female infants, but are rare in older women.^[5] The incidence of female inguinal hernias in literature has been reported to be 71% in children under five years, 30% in adolescents or women in a reproductive age group, and 2.9% exclusively in adults.^[3]

A Dutch anatomist equated the canal of Nuck as the female counterpart of the processus vaginalis in males. There is normally an evagination of the parietal peritoneum that is accompanied by the round ligament of the uterus during embryogenesis. This is normally followed by the obliteration of the peritoneal evagination by the eighth intra-uterine month.^[6] Persistence of the opening may subsequently result in the presentation of inguinal hernias either in infancy or adulthood. The descent of the ovary to the base of the labia majora is prevented by the fixation of the gubernaculum of the ovary to the uterine cornu. There is absence of MIS and testosterone during female embryogenesis. This prevents the migration of the gubernaculum and instead the

ovaries migrate away from the inguinal canal.^[7] The poor gubernaculum development along with the development of the cranial suspensory ligament is responsible for the ovarian ascent in females.^[7] Any defect in the above process can eventually result in the ectopic location of the ovary.^[8]

There are six previous case reports of a hydrocoele of the canal of Nuck, mimicking a sliding hernia with ovary as content that have previously been reported. The presence of a fallopian tube and an ectopic rudimentary horn of the uterus as contents in an adult woman is very rare.^[9]

The indication for an operative intervention in our patient was due to the strangulation of the left ovary. There may be a role of immediate operative intervention in inguinal hernias with the ovary as content, as they are more prone to go in for strangulation.^[10] In our patient due to the presence of the contralateral normal ovary, her future fertilisation and child bearing was not a major concern. The role of oocyte retrieval in cases of bilateral inguinal hernias with ovaries as contents can be thought of in the future.

Learning Points

- Hernial sac, containing uterus, fallopian tube and ovary is very rare and is diagnosed by the characteristic sonographic appearance.
- Female patients with an inguinal hernia should routinely undergo ultrasonography to diagnose rare contents in the sac.
- If ovaries are the contents of the sac, then immediate surgery is required to prevent complications
- Using a multimodality approach, including history, physical examination, imaging, and surgical management, one can safely and efficiently preserve ovarian and fertility function in young women.

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