DOI https://doi.org/10.61091/jpms202413418



# **Adult Presentation of Ovarian Inguinal Hernia: A Case Report**

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**Abstract** Ovarian inguinal hernia is an extremely rare condition. However, it is more common in infants and young females than in adults. The occurrence of inguinal hernias in adult females is usually due to failure in the closure of the processus vaginalis (which is usually obliterated by the eighth month of gestation). The association between the ovary-containing inguinal hernias and Mullerian duct anomalies is not well established. Commonly, inguinal ovarian hernia is present in infant females and rarely presents in adults. However, when observed in adults, the presentation is generally acute and rarely as chronic abdomen. In infants, the diagnosis is usually made preoperatively with ultrasonography whereas in adults, the diagnosis is intra-operative for acute presentation. Here we report a case of 32 year old female patients who presented with a Mullerian duct anomaly and an adult presentation of an ovarian inguinal hernia as chronic abdomen.

Key Words ovarian inguinale, mullerian duct anomalies, adult presentation, chronic abdomen

#### 1. Introduction

Inguinal hernias containing ovaries are uncommon, moreover, it is even rarer in adult females compared to infants and young females. Inguinal hernias occur due to failure in the closure of the processus vaginalis [1], [2]. These types of hernias are frequently found more in children, often in association with genital tract anomalies [3].

#### 2. Case Presentation & Description

A 32year-old obese (Body Mass Index = 33) female patient presented with chronic left groin pain for the last 5 years. She had visited multiple hospitals previously where diagnostic imaging findings were negative, hence, she was diagnosed with irritable bowel syndrome ( IBS ). At our institution, she was followed-up at the department of urology clinic for her single kidney that was discovered incidentally on previous computed tomography (CT) scan of the abdomen and pelvis. She was referred to the surgical clinic for chronic abdominal pain. On examination, the surgeon noticed a left inguinal tenderness and swelling; however, owing to her obesity, clinical examination was difficult for diagnosis. Therefore, contrastenhanced CT scan of the abdomen and pelvis was advised. CT showed an elongated structure herniating through the left inguinal canal (Figure 1 A). Additionally, the uterus was small in size and lying on the right side(Figure 1 B). Following the vascular supply, it revealed drainage in the left renal vein, which in turn drained a very diminutive left-sided renal tissue (Figure 1 C,D), confirming it as an ovary. Moreover, it was connected to the uterus by a small band. Therefore, the magnetic resonance imaging (MRI) of the pelvis was performed. MRI confirmed the diagnosis of unicornuate uterus and herniating left ovary. (Figure 1 E,F).

The surgeon advised laproscopic hernia mesh repair to relief her chronic abdominal pain. The patient provided consent for this, and underwent the procedure one week later. Exploratory laparoscopy confirmed a left indirect inguinal hernia with a viable left ovary as the hernial content adherent to the left external iliac vessels (Figure 1 G, H). Reduction of the left ovary and dissecting it off of the left external iliac vessels were safely made. Preperitoneal mesh plug and mesh hernioplasty followed by peritoneorrhaphy were successfully achieved (Figure 1 I,K).

The patient recovered well after surgery and was painfree at the 1-year follow-up, with no clinical or radiological evidence of recurrence.

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Figure 1: Enanced CT scan of the abdomen and pelvis in Porto-Venous (PV) phase. Axial ( A & B ) cuts demonstrates the herniated ovary in the left inguinal canal (yellow arrow ) as well as the diminutive right-sided uterus ( yellow circle ). Coronal ( C ) and Axial ( D ) images reveal almost empty left renal fossa with very diminutive renal tissue (yellow circle ) and the compensated hypertrophy of the right kidney ( black star ) . E & F: MRI Pelvis. Axial images confirm the presence of the left ovary in the left inguinal canal ( red arrow ) and the unicornuate uterus ( blue circle ) . I & K : These two laproscopic images demonstrate the mesh plug in the inguinal canal and peritoneorrhaphy

### 3. Discussion

Herniation of the ovary in the inguinal canal is extremely rare in women of reproductive age making the diagnosis challenging [4]. Only 12 cases of adult women with ovarianinguinal hernia have been reported so far [5]. When such cases of ovarian and fallopian tube inguinal hernias are found, anomalies associated with development of the genital tract, such as bicornuate uterus, vaginal atresia, and renal anomalies may be observed [6], [7]. However, the association between the ovary-containing inguinal hernia and mullerian abnormalities is still not well-established. To the best of our knowledge, there have been two cases described with ovarian-inguinal hernia in patients with unicornuate uterus [8], [9].

Cases of adult ovarian inguinal hernia are usually discovered in the operative setting when patients present with acute abdomen, and emergency surgery is performed for suspected bowel content, contrary to our case which had a chronic abdomen and was diagnosed preoperatively with CT scan; hence, elective surgery was performed [4]. In the pediatric population, the diagnosis of inguinal hernia is best approached through ultrasonography (US) as it is a radiationfree with the ability to determine the content of the hernia sac [10].

Similarly, in adult patients, the use of US has high sensitivity and specificity. Moreover, MRI is also being used to detect occult hernias that are not evident in clinical examination.

Although, recent studies have shown that patients with small hernias occurring for the first time and causing mild symptoms should not undergo surgical management immediately, follow up and medical care is required in case of symptoms of incarceration or strangulation [11]. However, female patients diagnosed with herniated ovaries should be appropriately managed surgically to reduce the risk of ovarian damage [12].

### 4. Conclusion

Cases of chronic abdominal pain should be thoroughly investigated and mechanical causes should be ruled out before labeling the patient as case of functional disease. Although the inguinal hernias containing an ovary are rare, especially in adult women, their presence should elicit the search for underlying uterine abnormality.

### **Conflict of interest**

The authors declare no conflict of interests. All authors read and approved final version of the paper.

## **Authors Contribution**

All authors contributed equally in this paper.

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