



INDIRECT INGUINAL HERNIA CONTAINING FALLOPIAN TUBE AND OVARY IN A YOUNG FEMALE.

General Surgery

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ABSTRACT

An indirect inguinal hernia containing fallopian tube and ovary is extremely rare in young females. The current report describes a young female presenting with an irreducible indirect inguinal hernia which required the surgical intervention of a general surgeon. The diagnosis was made by physical and sonographic examination and was confirmed by surgical intervention. We suggest a multimodal and multidisciplinary approach in order to safely and efficiently preserve ovarian and fertility function in young female who present with an inguinal hernia containing reproductive organs.

KEYWORDS

Inguinal Hernia, Fallopian tube, Ovary

Inguinal hernias occur in less than 5% of women [1]. Even though infrequent, when present, hernias must be evaluated urgently due to possible incarceration (trapped organs) or strangulation (disruption of blood flow) of organs, including, on rare occasion, the ovary and fallopian tube. In most circumstances, the diagnosis of an inguinal hernia can be made based on history and physical examination alone. Inguinal hernias may present as an asymptomatic finding such as a painless bulge in the groin area, or in a subacute or acute manner, with mild to severe abdominal-pelvic pain [2]. When a young female presents with severe abdominal pelvic pain, abdominal wall hernias must be considered in the differential. Hernias may frequently be overlooked particularly if not assessed in a physical exam. These hernias may contain a variety of visceral organs, of which intestines or omentum is most commonly found, resulting in an incarceration or strangulation which would be a surgical emergency. The ovary or fallopian tube may also become entrapped, although this is rarely considered. The patient may present in a nondescript manner and describe a heaviness or dull discomfort in the groin that is most pronounced when intra-abdominal pressure is increased. Typically, hernias can be diagnosed by careful palpation on physical examination if it is considered and confirmed by ultrasound imaging. However, when ultrasound results remain ambiguous and there is concern for entrapped organs, a CT scan can be performed to provide definitive diagnosis and aid in proper counselling, consultation, and timely decision making for urgent surgical management in order to avoid organ necrosis.

We present a rare case of a young female with an indirect, irreducible inguinal hernia containing a normal appearing ovary and fallopian tube which required surgical intervention.

Case Report

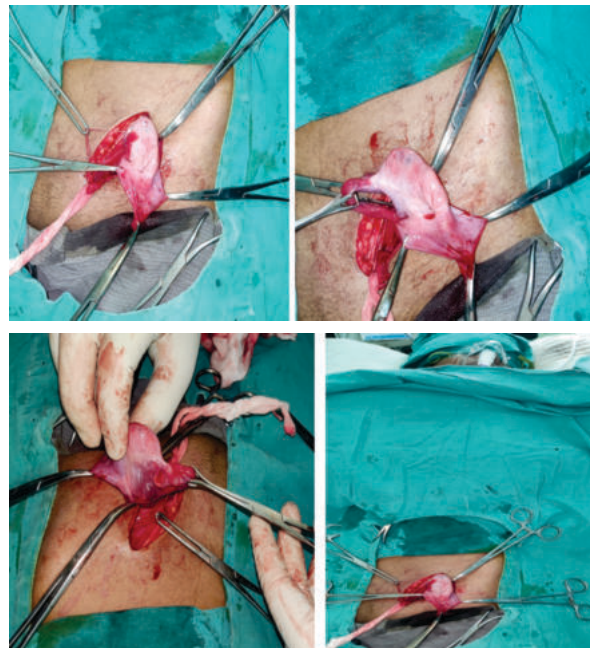
A 17-year old female presented to our hospital OPD with left groin swelling. The patient noticed a small bulge in the groin area over the past five years. She denied any urinary symptoms, nausea, or vomiting. She had regular menstrual history. She had no significant past medical history or surgical history.

Physical examination revealed a 3cm × 3cm mass over the left inguinal region. The mass was nontender to palpation. The abdomen was soft, nontender, and without peritoneal signs. Vital signs were BP-116/68mmhg, HR-84/min, Temp-98.4°F, and RR-15/min. Lab studies including chemistry panel, complete blood count, and urine pregnancy test were within normal limits.

The patient was initially evaluated and diagnosed as a case of left indirect inguinal hernia and an ultrasound was ordered to further determine the contents of the inguinal mass. The ultrasound report findings suggested "thick walled, complex tubular fluid collection abutting and inseparable from the left ovary and extending into the left groin, possibly representing a dilated and herniated fallopian tube."

The patient was prepared and taken for open left inguinal hernia repair with mesh placement. Examination revealed an indirect hernia

containing an incarcerated, dilated fallopian tube with a healthy, viable ovary sitting within the hernia sac. The contents were easily reduced back into peritoneal cavity without difficulty. The inguinal floor was reinforced with Prolene mesh.



DISCUSSION

Inguinal hernias consist of direct hernias (defined by protrusion through Hesselbach's triangle, medial to the inferior epigastric vessels) and indirect hernias (defined by protrusion through the inguinal ring, lateral to the inferior epigastric vessels) [2]. In adult women, indirect hernias are more common than direct hernias and typically occur during age 40–60 [1]. Most of these hernias contain intestinal contents and rarely viscera such as female adnexa (ovaries or fallopian tubes) in 3% of hernia cases [3]. If entrapment of the female adnexa occurs, it is found more frequently in infants due to anatomical causes including (1) a relatively short inguinal canal, (2) a canal that has an oblique direction through the abdominal wall, and (3) a diverticulum of Nuck, a peritoneal pocket associated with the round ligament that corresponds to the vaginal processus in the male infant [3–6].

In contrast, the occurrence of entrapped adnexa within an indirect hernia in young female, as seen in our patient, would be unexpected and uncommon. When discovered in adult females, the majority of hernias reported are found in perimenopausal or postmenopausal women [3, 7]. However, the differential must be considered in premenopausal women as well, as with the patient presented. Additionally, in contrast to the present report, previous case reports of

fertile women with entrapped adnexa have been associated with abnormalities of the fallopian tube, such as Para tubal cysts and haemorrhagic cysts of the ovary which may cause a weighted descent of the organ and predisposition for entrapment [7, 8]. Further risk factors may include lengthening of the broad, uterine, or ovarian suspensory ligaments in high parity patients resulting in displacement of adnexal structures and high intra-abdominal pressures from frequent valsalva maneuvers in patients with chronic cough or frequent heavy lifting [5]. Our patient, however, had no adnexal enlargement or pathology identified, nor any of these risk factors listed.

Timely management must be undertaken to ensure prompt surgical intervention to reduce the risk of ovarian damage and subsequent infertility. This will likely require collaborative efforts by gynecologists and general surgeons and recognition of this condition by both parties in order to ensure preservation of fertility. In past reports where female adnexa were involved, more than half required oophorectomy secondary to strangulation [3]. When extending to cases involving female infants or children, 27% of those who presented with irreducible ovaries were found to have infarcted ovaries at surgery [6] as reported in a series of 1699 children with inguinal hernia. Incarceration of adnexa alone may decrease the blood supply, and torsion (which is not infrequently found with enlarged adnexa) would likely compromise blood flow further. Thus, female adnexa are particularly vulnerable to damage when entrapped in inguinal hernias, and failure to recognize this may result in an infarcted and unsalvageable ovary and/or fallopian tube.

CONCLUSION

In summary, we have described the rarity of a normal fallopian tube and ovary within an indirect inguinal hernia in a young female. Furthermore, diagnosis of entrapped viscera including the adnexa must be considered in the differential diagnosis of hernias in young female, in order to ensure proper surgical and medical management to ensure preservation of fertility. Surgical intervention in a timely fashion may be necessary in order to prevent and relieve torsion and to return normal perfusion to the adnexa. Multiple imaging studies may be necessary to assist in diagnosis, including ultrasound and/or cross-sectional imaging by computed tomography (CT). By considering a gynecologic etiology when faced with inguinal hernias in female and using a multimodal approach including history, physical examination, imaging, and surgical management, one can safely and efficiently preserve ovarian and fertility function in young female.

REFERENCES

1. Kark AE, Kurzer M. Groin hernias in women. *Hernia*. 2008;12(3):267–270. [PubMed] [Google Scholar]
2. Sherman VMJ, Brunnicardi FC. Schwartz's Principles of Surgery. 9th edition. New York, NY, USA: McGraw-Hill; 2010. Inguinal hernias. [Google Scholar]
3. Gurer A, Ozdogan M, Ozlem N, Yildirim A, Kulacoglu H, Aydin R. Uncommon content in groin hernia sac. *Hernia*. 2006;10(2):152–155. [PubMed] [Google Scholar]
4. Kapur P, Caty MG, Glick PL. Pediatric hernias and hydroceles. *Pediatric Clinics of North America*. 1998;45(4):773–789. [PubMed] [Google Scholar]
5. Okada T, Sasaki S, Honda S, Miyagi H, Minato M, Todo S. Irreducible indirect inguinal hernia containing uterus, ovaries, and fallopian tubes. *Hernia*. 2012;16(4):471–473. [PubMed] [Google Scholar]
6. Boley SJ, Cahn D, Lauer T, Weinberg G, Kleinhaus S. The irreducible ovary: a true emergency. *Journal of Pediatric Surgery*. 1991;26(9):1035–1038. [PubMed] [Google Scholar]
7. Ozkan OV, Semerci E, Aslan E, Ozkan S, Dolapcioglu K, Besirov E. A right sliding indirect inguinal hernia containing paraovarian cyst, fallopian tube, and ovary: a case report. *Archives of Gynecology and Obstetrics*. 2009;279(6):897–899. [PubMed] [Google Scholar]
8. Malik KA, Al Shehhi RM, Al Qadhi H, Al Kalbani M, Al Harthy A. Ovarian Hernia: a rarity. *Sultan Qaboos University Medical Journal*. 2012;12(2):225–227. [PMC free article] [PubMed] [Google Scholar]