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Uterus inguinal hernia accompaniment didelphys uterus: A case report

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ABSTRACT

INTRODUCTION: Inguinal hernia encompassing the uterus, ovary and fallopian tube are uncommonly present in women of reproductive age, which is often diagnosed and treated during childhood. In this article we report a case of uterus inguinal hernia accompaniment didelphys uterus were confirmed during surgery.

PRESENTATION OF CASE: A 15-year-old female presented with a history of a reducible mass located in the right inguinal region. Surgery was performed through an inguinal approach and the entire infantile uterus, both ovary and fallopian tube were found within the hernia sac. Laparoscopic exploration confirmed a normal uterus in the pelvic cavity, and the patient was discharged 3 days after the Lichtenstein operation.

DISCUSSION: Although inguinal herniation is a common condition that occurs most often in elderly male and without any associated clinical symptoms. But uterine inguinal herniation should be considered as a reducible mass showed in the inguinal region. For open surgery, laparoscopy can be clearly diagnosed if it's necessary to avoid blindly cutting and ligating important structures, which may affect fertility function after operation.

CONCLUSION: Before the final choice of treatment is made, digestive surgeons should bear this rare hernia of uterine in mind for the differential diagnosis of an inguinal masses in women of child-bearing period. Congenital deformity genital organ, meanwhile, also should be considered.

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1. Introduction

Inguinal hernia containing the uterus and adnexa is extremely rare in women of childbearing age with an incidence of 0.16%–0.80% [1,2]. It is difficult to diagnose the uterine inguinal hernia if combined uterine malformation and no gynecological clinical symptoms. Therefore, we report the case because of its rare presentation; and it should be kept in mind that uterine inguinal hernia should be considered in the differential diagnosis of inguinal masses in women of childbearing age. Meanwhile, congenital deformity genital organ also should be considered. This case report is following the SCARE criteria for case reports publication [1].

2. Presentation of case

A 15-year-old female presented with a history of a reducible painless mass in the right inguinal region, complaining of sen-

sation of mild discomfort in this area when she walked. No any other significant symptoms were mentioned. Physical examination at admission demonstrated a mobile soft, regular contoured mass (4 cm × 4 cm × 3 cm) in the right inguinal region. There was no swelling and tenderness in the skin. After the patient lies on her back, part of the mass could be entered into the abdominal cavity, pressing the profundal inguinal ring, the mass no longer appears when patient coughed. Because of the ethical issues involved, no gynecological examination was performed. Preoperative investigation was performed with gynecological ultrasound and the imaging results indicated there was no obvious structural abnormalities. Ultrasound in other hospital confirmed right inguinal hernia with uterine-like muscular echo.

After got a well preoperative clearance, she was planned for repair of inguinal hernia. The hernia sac is located lateral to the inferior epigastric vessels, which is confirmed as an indirect inguinal hernia. Opening the hernial sac revealed a solid nodule about 1 cm × 2 cm × 2 cm in size, and uterine and fallopian tube-like structures were found on the right side (Fig. 1). The decision to perform laparoscopic exploration was made because it was uncertain whether the nodule was a normal uterus. A slightly smaller uterus and normal ovary and fallopian tube were observed in the pelvic cavity dur-

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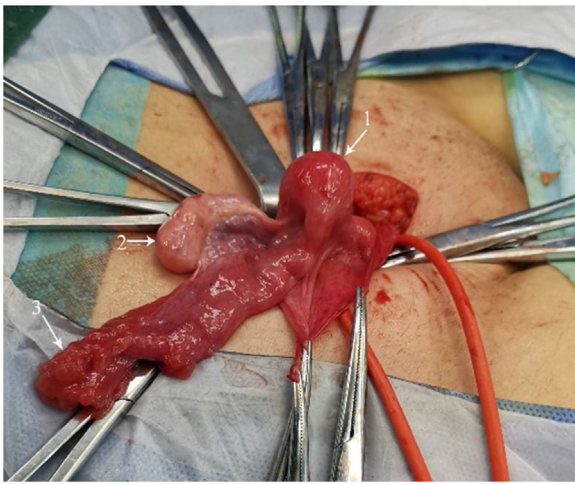


Fig. 1. Image of the opened right hernia sac. (1) Infantile uterus. (2) Ovary. (3) Fallopian tube.

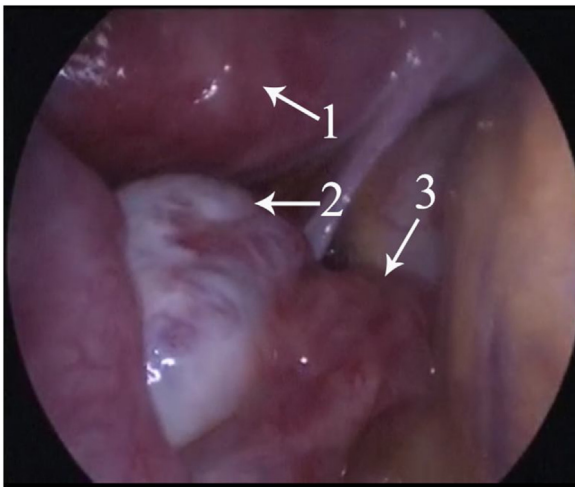


Fig. 2. Laparoscopic exploration was performed and revealed the pelvic structure. (1) Uterus. (2) Ovary. (3) Fallopian tube.

ing the exploration (Fig. 2). Because no ischemic change was noted, the infantile uterus, ovary and fallopian tube was returned to the abdominal cavity, and the Lichtenstein tension-free mesh repair was performed to reinforce the posterior inguinal wall. The post-operative recovery was uneventful and the patient was discharged on postoperative day 3 according to the department protocol.

3. Discussion

Inguinal hernia contents refer to the internal organs or tissues that enter the hernia sac, with the small intestine being the most common, followed by the greater omentum. In addition, such as cecum, appendix, sigmoid colon, transverse colon, bladder, uterus and adnexa and so on can enter the hernia sac, but it is rare. An inguinal hernia will affect nearly one-third of men and 3–5% of women over their lifetime [2]. Whereas hernia containing the uterus, ovary and fallopian tube may not be unusual in young girls, it is not commonly reported in women of reproductive age with an incidence of 0.16%–0.80% [3,4]. In addition, some scholars have found through literature research that the inguinal hernias of adult women encompassing the uterus, ovary and fallopian tube are commonly associated with developmental defects of the reproductive organs, most of which are primitive uterus [5]. According to a ret-

rospective study, only 7 (2.9%) of the 242 female patients who underwent hernia repair in the past 15 years had hernias containing ovary and fallopian tube [6]. It is recommended that women with asymptomatic inguinal hernias undergo routine ultrasound and gynecological examination to detect potential anatomic variation before surgery. Surgical approach in such patients is to separate the uterus, fallopian tubes and ovaries from the hernia sac, return it to the abdominal cavity, and then perform high ligation of hernial sac. Surgical management is also towards preserving or restoring fertility and preventing malignant transformation [7]. The viability of the gynecological structures and the difficulty of repositioning them in the abdominal cavity also should be considered before restoration [8]. Because this procedure is more complex and difficult than ordinary repairs of inguinal hernia, accurate preoperative diagnosis is very important.

Such as infertility, recurrent miscarriage and preterm delivery are associated with uterine malformations to variable degrees reported in the literature [9]. A systematic review [10] showed that the prevalence of uterine malformations was 5.5% in healthy population, 8% in infertile women, 13.3% in those with miscarriage. Unfortunately, there were no appropriate studies investigating the prevalence of uterine malformations in women with preterm delivery were identified. The infantile uterus is caused by the cessation of development in a short period after the confluence of accessory mesonephric ducts, which is smaller than the normal uterus, but still has a uterine cavity. Its cervix is conical and relatively long, which needs to be differentiated from the primordial uterus. The primordial uterus is a rare disease, which is caused by the cessation of development shortly after the confluence of the Mullerian ducts. Most primordial uterus have no uterine cavity or uterine cavity without endometrium. Some patients with primitive uterus may have ovaries, but usually do not have vaginas, and clinically manifested as primary amenorrhea.

Congenital uterine malformations have different clinical symptoms. Few patients may be asymptomatic and are only found during physical examination or operation. Didelphys uterus, or double uterus, is an embryological developmental malformation of the Mullerian or Wolffian ducts, characterized by complete failure of the Mullerian ducts to fuse, resulting in two separate uterine cavities and cervixes with the incidence of approximately 8.3% of all Mullerian duct abnormalities (MDAs) [11]. There is an increased risk of spontaneous abortion, fetal growth retardation, prematurity abnormal fetal position and even uterine rupture with an estimated 45% (or lower) chance of carrying a pregnancy to term in comparison to a normal uterus [12]. Therefore, contraception should be used as far as possible for patients with didelphys uterus malformations. The clinical diagnosis of double uterine malformation is mostly invasive, such as hysteroscopy combined with laparoscopy. Confirming the precise anatomy of the entire female reproductive tract, including the uterus, cervix, and vagina, is critical to predicting potential obstetric outcomes. For this reason, when the anatomy is unclear, multiple methods such as ultrasound, hysteroscopy or even laparoscopy may be required for diagnosis.

4. Conclusion

Before the final choice of treatment is made, digestive surgeons should bear this rare hernia of uterine in mind for the differential diagnosis of an inguinal masses in women of child-bearing period. Congenital deformity genital organ, such as double uterine malformation, also should be considered. The precise anatomy of the female reproductive tract is critical for predicting potential obstetric outcomes. Thus, when the anatomy is unclear, multiple methods may be required for diagnosis.

Declaration of Competing Interest

The authors report no declarations of interest.

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Ethical approval

The study type is exempt from ethical approval.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Yang Deng contributed to study design.
Yuan Wang contributed to data collection.
Bo Wang and Langsong Hao joined in the operation as surgeons.

Registration of research studies

N/A.

Guarantor

Dr. Langsong Hao.

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