CASE REPORT

Inguinal Hernia Containing Uterus and Uterine Adnexa in Female Infants: Report of Two Cases

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We herein report two female cases, aged 1 and 1.5 months, of inguinal sliding hernias containing the uterus, fallopian tube, and ovary. The diagnosis of inguinal hernia with uterus and uterine adnexa was highly suspected preoperatively by ultrasonography and was confirmed during surgical correction. Freeing the attachment of fallopian tube and uterus from the sac and with reduction of the uterus, ovary, and fallopian tube back to the peritoneal cavity, high ligation of the hernia sac was performed in these cases. In conclusion, the hernia sac containing fallopian tube, ovary, and uterus in the female is very rare. We present our experience of treatment with these rare cases and suggest that sonography be performed routinely in female infants with an inguinal hernia containing a palpable movable mass.

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1. Introduction

Sliding inguinal hernias are defined as hernias having their own mesentery. Approximately 15%–20% contain ovary, sometimes with a fallopian tube, in the female sliding hernia. The presentation of an asymptomatic palpable movable mass over the labium major always suggests sliding hernia with ovary. To our knowledge, only a few reports of hernia sac containing uterus, fallopian tube, and ovary in female patient have appeared in the literature. We present
our experience in treatment of two of these rare cases and review the literature.

2. Case Reports

2.1. Case 1

A 1-month-old female infant was referred to the pediatric surgery clinic for right inguinal hernia. An examination showed an irreducible movable mass in her right groin that appeared larger while crying or straining. There was no history of illness, irritability, vomiting, or pain. Because an inguinal sliding hernia with ovary was suspected, sonography was performed. Ultrasonography demonstrated a mass that passed through the right inguinal canal. The hernia contained a homogeneous structure with a central echoic line, leading us to suspect herniation of uterus; there was no visible peristalsis (Figure 1). The hernia sac containing ovary, fallopian tube, and uterus was confirmed during uncomplicated surgical operation. We freed the attachment of fallopian tube and uterus from the sac and reduced the uterus, fallopian tube, and ovary into the peritoneal cavity; high ligation of the hernia sac was also performed. The patient’s postoperative course was uneventful.

2.2. Case 2

A 1.5-month-old female infant was presented to the Emergency Department because of an irreducible mass in her right groin. On physical examination, a palpable movable mass in the right anterior labia majora was found. All attempts to reduce the mass failed. Sonographic examination showed a homogeneous structure with a central echoic line and a $2 \times 1 \times 0.8$ cm oval mobile cystic-like mass, suspicious for herniation of the uterus and ovarian cyst. Surgery confirmed the hernia sac containing the uterus, fallopian tube, and ovary (Figure 2). After freeing the attachment of the fallopian tube and uterus from the hernia sac and reducing all uterine adnexa back into peritoneal cavity, high ligation of the hernia sac was performed. The patient is doing well after surgery.

3. Discussion

The processus vaginalis arises as an evagination of parietal peritoneum at around the sixth month after conception. Embryogenesis of this process has been well described by Khanna et al. Depending on gender, the processus vaginalis is accompanied by testis or round ligament of the uterus and passes through the inguinal canal toward the scrotum or labium major. The female counterpart of the processus vaginalis is relatively small and commonly disappears by 8 months of gestation, although patency may persist into postnatal life. If patency persists, the patent processus is termed the canal of Nuck. Failed obliteration is a cause of hydrocele or hernia. Six girls who had hydrocele of the canal of Nuck, an infrequent finding, mimicking a sliding hernia with ovary were previously reported. Hernia of the canal of Nuck is also a very rare condition. Approximately 15%–20% contain ovary, sometimes with a fallopian tube. However, a hernia in female infant containing the uterus is rare. Only five cases had been reported previously.

Embryologically, there is no good explanation why the uterus should herniate in girls, unless there is an anatomic abnormality of the ligaments that suspends the uterus. One previous report offered the hypothesis that if there is failure of fusion of the Mullerian ducts leading to excessive mobility of the ovaries plus nonfusion of the uterine cornae, the chance of herniation of the ovary into the inguinal canal is increased. Not only can ovarian herniation occur but also cases have been documented of fallopian tube herniation and even herniation of the entire uterus into the inguinal canal of infant females. We think that careful gynecologic follow-up until childbearing age is indicated.

Some previous work has documented that when the ovary is herniated completely, only the fallopian tube is attached to the ligament in the sac. The ovary and its vessels do not adhere to the sac itself. The surgical procedure for inguinal sliding hernia we described previously is reduction of the ovary and ligation of the hernia sac distal to the fallopian tube and dividing, invaginating the proximal sac into the peritoneal cavity with a purse-string suture. When the uterus also herniated to the hernia, the herniated part of uterus also adheres to the wall of the sac. The surgical procedure was that freeing the attachment of fallopian tube
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and the uterus from hernia sac; retraction of the ovary, fallopian tube, and uterus into the peritoneal cavity; and then high ligation of the hernia sac. That is a quite different procedure from that for only ovary sliding hernia. Because the procedure is more complicated and difficult than common herniorrhaphy, an accurate preoperative diagnosis is very important.

In conclusion, a hernia sac containing uterus, fallopian tube, and ovary in the female is very rare. The lesions can be diagnosed by the characteristic sonographic appearance. We suggest that sonography be performed routinely in those females with an inguinal hernia containing an asymptomatic palpable movable mass.

References


