Right Inguinal Hernia Encompassing the Uterus, Right Ovary and Fallopian Tube in an Elderly Female: Case Report

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The uterus, ovary, and fallopian tube are rarely present in an inguinal hernia. We report on an operation to treat just such a rare condition for a right inguinal hernia. An 87-year-old Japanese woman was admitted with swelling in the right inguinal region and a purulent discharge from the vagina. Vital signs were stable, but the mobile mass was irreducible. Computed tomography of the abdomen indicated uterine tissue in a right inguinal hernia. We diagnosed an inguinal hernia with an incarcerated uterus and performed surgery on that basis. An incision approximately 6 cm long was made in the skin above the swollen area to open the inguinal sac, disclosing a tumor enveloped by a hernial sac. Opening the hernial sac revealed the prolapsed uterus, the fallopian tube, and the right ovary. Because no ischemic change was noted, the incarcerated uterus was returned to the abdominal cavity, and the hernial opening was closed with the onlay mesh technique. The posterior wall of the inguinal canal was found to have prolapsed laterally to the inferior epigastric artery, resulting in an external inguinal hernia. This case demonstrates that careful attention must be paid to inguinal hernias in female patients because the uterus, ovary, and fallopian tube may be involved. (J Nippon Med Sch 2016; 83: 93–96)

Key words: inguinal hernia, uterus, operation

Introduction

Inguinal herniorrhaphy is one of the most commonly performed elective procedures worldwide. In the United States, an estimated 800,000 repairs of inguinal hernias are performed each year, accounting for 10% to 15% of all surgical procedures¹. Hernia uterine inguinale is a rare condition often presenting within the first few years of life as an asymptomatic palpable mass in the inguinal/groin area. This type of hernia contains uterine tissue and may encompass the fallopian tube, ovaries and, in rare cases, the bladder². Sliding hernias of the fallopian tube, ovaries, and uterus occur occasionally in newborn female infants but are rare in older women³.

We report a case of successful surgical management of an elderly woman who had a right inguinal hernia encompassing the uterus, right ovary, and fallopian tube. Case Presentation

An 87-year-old Japanese woman was admitted with swelling in the right inguinal region and a purulent discharge from the vagina. The swelling had been present for 2 months. The patient also had hypertension, diabetes mellitus, and cholelithiasis. Laboratory examinations returned the following values: white blood cell count, 5,950/μL (normal: 4,000 to 8,000/μL); serum hemoglobin concentration, 12.8 g/dL (normal: 14 to 17 g/dL); platelet count, 26.3 × 10⁴/μL (normal: 12 to 38 × 10⁴/μL); serum aspartate aminotransferase, 14 IU/L (normal: <28 IU/L); serum alanine aminotransferase, 5 IU/L (normal: <33 IU/L); serum albumin level, 3.4 g/dL (normal: 3.8 to 5.5 g/dL); serum creatinine level, 0.6 mg/dL (normal: <1.2 mg/dL); and C-reactive protein, 0.1 mg/dL (normal: <0.3 mg/dL).
mg/dL). Computed tomography of the abdomen indicated that uterine tissue was present in the right inguinal hernia (Fig. 1).

We diagnosed an inguinal hernia with an incarcerated uterus and performed surgery on that basis. An incision approximately 6 cm long was made in the skin above the swollen area to open the inguinal sac; a tumor enveloped by a hernial sac was disclosed. Opening the hernial sac revealed the prolapsed uterus, the fallopian tube, and the right ovary (Fig. 2). Because no ischemic change was noted, the incarcerated uterus was returned to the abdominal cavity, and the hernial opening was closed with the onlay mesh technique. The posterior wall of the inguinal canal was found to have prolapsed laterally to the inferior epigastric artery, resulting in an external inguinal hernia. The postoperative course was uneventful and the patient was discharged on postoperative day 7. After 9 months, computed tomography of the abdomen showed no recurrence of the hernia, and no the patient was not taking any medication (Fig. 3).

**Discussion**

Inguinal hernias encompassing the uterus, ovary, and fallopian tube are usually seen only in newborns. When herniated ovarian and fallopian tubes are detected, they are commonly associated with developmental defects of the genital tract. The fallopian tube and ovary are found as a sliding component in 15% to 20% of inguinal hernias in childhood. Hernia uterus inguinale, or inguinal hernia containing the uterus, is an extremely rare condition in which the uterus and uterine adnexa are found inside the inguinal canal in female infants. The incidence of this condition is highest in infancy and decreases with age.

Hernia uterus inguinale is a rare congenital anomaly found typically in hermaphrodites. Persistent müllerian duct syndrome is another condition that leads to hernia uteri inguinale; it is a relatively rare variety of male pseudohermaphroditism. Patients are phenotypically male and have a male (46XY) karyotype. However, they will have müllerian remnants, such as fallopian tubes, uterus, and the proximal vagina, which are in close proximity to the testes and vas deferens. A rudimentary va-
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Table  List of cases of hernia uterus inguinale in adult women

<table>
<thead>
<tr>
<th>No.</th>
<th>age (y)</th>
<th>Hernia contents</th>
<th>Hernia site</th>
<th>Vagina</th>
<th>Gravidity/Menstruation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\textsuperscript{12}</td>
<td>34</td>
<td>Rudimentary uterus/ovary/oviduct</td>
<td>Bilateral</td>
<td>Agenesis</td>
<td>Primary amenorrhea</td>
</tr>
<tr>
<td>2\textsuperscript{13}</td>
<td>20</td>
<td>Rudimentary uterus/ovary/oviduct</td>
<td>Bilateral</td>
<td>Agenesis</td>
<td>Primary amenorrhea</td>
</tr>
<tr>
<td>3\textsuperscript{14}</td>
<td>35</td>
<td>Rudimentary uterus/ovary/oviduct</td>
<td>Left</td>
<td>Normal</td>
<td>Fifth pregnancy</td>
</tr>
<tr>
<td>4\textsuperscript{15}</td>
<td>16</td>
<td>Rudimentary uterus/ovary/oviduct</td>
<td>Left</td>
<td>Agenesis</td>
<td>Primary amenorrhea</td>
</tr>
<tr>
<td>5\textsuperscript{16}</td>
<td>19</td>
<td>Rudimentary uterus/ovary/oviduct</td>
<td>Left</td>
<td>Normal</td>
<td>Normal menstruation</td>
</tr>
<tr>
<td>6\textsuperscript{17}</td>
<td>26</td>
<td>Rudimentary uterus/ovary/oviduct</td>
<td>Right</td>
<td>Normal</td>
<td>Third pregnancy</td>
</tr>
<tr>
<td>7\textsuperscript{18}</td>
<td>20</td>
<td>Rudimentary uterus/ovary/oviduct</td>
<td>Left</td>
<td>Agenesis</td>
<td>Primary amenorrhea</td>
</tr>
<tr>
<td>8\textsuperscript{19}</td>
<td>25</td>
<td>Rudimentary Uterus</td>
<td>Right</td>
<td>Normal</td>
<td>Normal menstruation</td>
</tr>
<tr>
<td>9\textsuperscript{1}</td>
<td>23</td>
<td>Rudimentary uterus/oviduct</td>
<td>Left</td>
<td>Normal</td>
<td>Normal menstruation</td>
</tr>
<tr>
<td>10\textsuperscript{4}</td>
<td>47</td>
<td>Uterus/ovary/oviduct</td>
<td>Left</td>
<td>Normal</td>
<td>Multiparous</td>
</tr>
<tr>
<td>Our case</td>
<td>87</td>
<td>Uterus/ovary/oviduct</td>
<td>Right</td>
<td>Normal</td>
<td>Multiparous</td>
</tr>
</tbody>
</table>

In adult women with hernia uterus inguinale, different genital abnormalities have been identified\cite{11,12,13,14}. Cases of hernia uterus inguinale in adult women are extremely rare. In our investigation of the literature with the search engine PubMed, we found only 10 cases. These cases are summarized in the Table\cite{14,15,16}. Surprisingly, the uterus contained in the hernia was a rudimentary uterus in 9 of the 10 cases. A normal uterus was contained in only 2 cases, including the case we report here. The hernial sites varied across the cases, and there was no deviation. Vaginal agenesis was found in 3 cases. With regards to patient age, our patient was the oldest of all the cases. We considered our case to be extremely rare, because the patient was both elderly and had a normal uterus.

Abnormalities in embryogenesis of the müllerian duct system resulting in congenital anomalies of the female genital tract are relatively common\cite{17}. The failed müllerian duct leads to the formation of an isolated hemiuterus without a contralateral structure (complete failure) or with varying stages of a rudimentary horn (partial failure)\cite{18,19}. The rudimentary uterus may often be contained in an inguinal hernial sac.

The mechanisms of uterus prolapse are unclear. In our case, the patient was extremely elderly and the muscles of the abdominal wall may have been weak. Moreover, she was multiparous. These factors may have also played a causative role in the development of the hernia. We found during the surgery that the uterus had mobility and was surrounded with extremely loose connective tissue. Although she was not aware of the right inguinal hernia, we presume that the patient had had the inguinal hernia for a long time. The right ovary was sliding because the uterus was prolapsed. The patient was aware of the swelling in the right inguinal region.

**Conclusion**

We encountered a rare case of hernia uterus inguinale. This case demonstrates that careful attention must be paid to inguinal hernias in elderly and multiparous women, because the uterus, ovary, and fallopian tube may be involved.

**Conflict of Interest:** None.

**References**


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