Huge pyogenic cervical cyst with endometriosis, developing 13 years after myomectomy at the lower uterine segment: a case report

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Abstract

Background: Surgical site infections are potential complications following open myomectomy. These infections usually develop immediately after the surgery, and are most often located in the myometrium. Pyogenic cervical cysts are rare and have not been previously reported to occur at the site of myomectomy.

Case presentation: A 41-year-old nulligravida Japanese woman was referred to our hospital with a large cervical cyst (>15 cm in diameter). She had undergone a myomectomy 13 years previously, and the surgical site had extended to the endocervical gland. Standard blood tests did not show any evidence of inflammation. The patient underwent a total abdominal hysterectomy, which revealed that the cyst contained multiple components, including Escherichia coli, old blood, and evidence of endometriosis. A pathological review did not show malignant cells within the cyst. The pyogenic cyst originated from the upper anterior cervix, which was one of the sites involved in the previous myomectomy.

Conclusion: We reported a huge pyogenic cervical cyst exhibiting signs of endometriosis, in the vicinity of the uterine scar from the open myomectomy. The previous surgery and endometriosis might have contributed to the formation of this rare pyogenic cyst.

Keywords: Cervical pyogenic cyst, Uterine fibroid, Myomectomy scar, Endometriosis

Background

Uterine fibroids are commonly observed, affecting >30% of women of reproductive age [1]. Fertility-sparing surgery (myomectomy) is one of the major treatment options for younger patients [2], although potential risks are associated with this treatment. Myomectomy is associated with a risk of recurrent uterine fibroids, pelvic adhesions, as well as complications at the incision site. Furthermore, myomectomy increases the risk of uterine rupture during labor, and commonly requires planned cesarean sections [3]. Unfortunately, post-cesarean section abscess formation has been reported at the site of uterine incision [4]. Moreover, intra-uterine infection may develop before or after cesarean section, and the risk of surgical site infection has been reported to increase after cesarean section [5]. However, no studies have reported the development of pyogenic cervical cysts, without signs of infection, after myomectomy. In the present report, we describe a rare case of a pyogenic cervical cyst, further complicated by endometriosis, arising 13 years after open myomectomy.

Case presentation

A 41-year-old nulligravida Japanese woman was referred to our hospital (Kawakita General Hospital, Tokyo, Japan) due to the presence of a large cervical mass. Thirteen years previously, she had undergone myomectomy for the treatment of multiple uterine fibroids in the lower uterine segment, including one weighing 1.4 kg. Penetration beyond the endocervical gland had occurred during resection, and the anterior endocervical canal had been opened...
during the surgery. Her original follow-ups were approximately once a year at another hospital, where cancer screening was performed using transvaginal ultrasonography and cytology of the cervix and endometrium. Eight years after the original surgery, she had undergone pelvic magnetic resonance imaging (MRI), which did not detect any abnormal masses in the uterine body or cervix. Twelve years after the original surgery, she underwent transvaginal ultrasonography, and no abnormal masses were detected.

However, a pelvic examination, performed 13 years after her myomectomy, indicated marked enlargement of the cervix, which was suspected to be a cervical malignancy. The patient had experienced no symptoms prior to the examination, and given the lack of observed progression, we were unable to estimate the period over which the mass developed. Transvaginal ultrasonography indicated that the mass contained multilocular, hypochoic lesions, with heterogeneous internal echogenicity. Furthermore, MRI confirmed the presence of a multilocular, irregularly shaped cystic mass (overall diameter, >15 cm) in the upper anterior cervix (Figure 1A and B). Computed tomography (CT) did not show any evidence of enlarged lymph nodes, ascites, or a distant tumor. Blood tests did not show elevated levels of inflammation or tumor markers. The patient’s white blood cell count was 6,000/mL and C-reactive protein level was <0.3 mg/dL. Levels of CA125, CA19-9, and squamous cell carcinoma antigen (SCC) were 32.4 U/mL,
vical abscess might have developed de novo have progressed to pyogenic granuloma, or a gigantic metriosis. Alternatively, a cervical endometriotic cyst might be associated with the formation of endome-triosis and/or infection might have contributed to the formation of the cyst.

Conclusions
We have reported the rare case of a pyogenic cervical cyst, containing signs of endometriosis and E. coli infection, in the vicinity of the uterine scar from previous open myomectomy. The previous surgery might be associated with the endometriosis at the site of infection, and endometriosis and/or infection might have contributed to the formation of the cyst.

Consent
The patient gave written consent for the case report to be published.

Abbreviations
CT: Computed tomography; MR: Magnetic resonance imaging; SCC: Squamous cell carcinoma antigen.

Competing interests
The authors declare that they have no competing interests.

Authors’ contributions
KO and YI treated the case and wrote the manuscript. DM and MF diagnosed the case pathologically. TA, KK, YO, and TF contributed to the diagnosis, obtained informed consent, and determined the management of the case. All authors read and approved the final manuscript.

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