Endometrial Yolk Sac Tumor with Omental Metastasis

Jin-Ke Li[1], Kai-Xuan Yang[2], Ying Zheng[1]

[1]Department of Obstetrics and Gynecology, West China Second Hospital, Sichuan University, Chengdu, Sichuan 610041, China
[2]Department of Pathology, West China Second Hospital, Sichuan University, Chengdu, Sichuan 610041, China

To the Editor: A 38-year-old woman presented at our hospital with a complaint of hypermenorrhea lasting 2 months. No symptoms were found by bimanual examination, and vaginal ultrasound showed endometrial thickness of 4 mm. Diagnostic curettage strongly suggested clear-cell adenocarcinoma. Magnetic resonance imaging of the pelvis showed an intact endometrial binding zone with no extrauterine infiltration. Other laboratory examinations were normal; serum alpha-fetoprotein (AFP) level was not determined at admission. Exploratory laparoscopy was performed under general anesthesia. Radical surgery was performed involving total hysterectomy, bilateral salpingo-oophorectomy, pelvic and abdominal aortic lymphadenectomy, and omental resection. All surgical specimens were analyzed carefully. A tumor measuring 2.5 cm × 1.5 cm × 1.5 cm was found in the left corner of the posterior uterine cavity [Figure 1a]. Several metastatic nodules with a diameter of 1.0 cm were found in the omentum. No other metastases were found in the abdominal cavity. All pelvic and abdominal aortic lymph nodes were normal. Pelvic washes were negative for tumor cells.

Histopathology revealed an endometrial yolk sac tumor (YST) with superficial muscular invasion and omental metastasis [Figure 1b]. Serum AFP level on postoperative day 10 was 37.4 ng/ml (normal, <8.1 ng/ml). Tumor immunostaining was positive for AFP, carcinoembryonic antigen, Sall-4, CK18, and CK56 [Figure 1c and 1d]. The patient recovered well after surgery and was started on a regimen of bleomycin, etoposide, and cisplatin expected to last at least six cycles.

YSTs, also known as endodermal sinus tumors, are malignant germ cell tumors that occur usually in the ovary and rarely in the endometrium. We have identified only a few published reports of endometrial YSTs in PubMed, affecting patients aged 17 to 65 years.[1,2] Among the cases, the most frequent symptom was abnormal vaginal bleeding, but presurgical endometrial biopsy allowed correct diagnosis of YST in only five cases. YSTs can show variable presentation under a microscope, and pathologists may have difficulty in differentiating microcystic or endodermal sinus-like structures from clear-cell carcinoma.[3] Indeed, our patient was diagnosed initially with suspected clear-cell carcinoma, and the presence of a YST was determined postoperatively.

Endometrial YSTs seem to be associated with high metastatic rates. Eight of the 14 previously published reports of endometrial YSTs showed metastases of peritoneum, diagram, liver, omentum, or lung. YSTs are strongly positive for AFP expression, as in the present case. Serum AFP level is crucial for diagnosis and monitoring metastasis or recurrence.

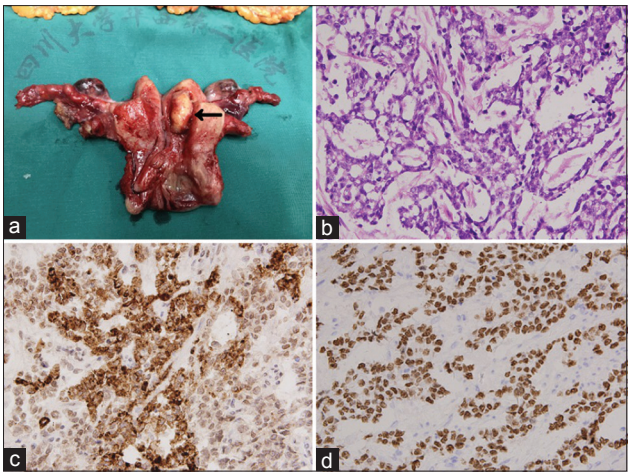

Figure 1: Characterization of the endometrial yolk sac tumor. (a) Photograph of the tumor (arrow) following hysterectomy. (b) Tumor section stained with hematoxylin-eosin. (c) Tumor section immunostained with antibody against alpha-fetoprotein. (d) Tumor section immunostained with antibody against Sall-4 (b-d: original magnification ×400).

Although no consensus guidelines exist for treating endometrial YSTs, most patients in the literature underwent cytoreductive surgery, usually followed by a regimen of bleomycin, etoposide, and cisplatin as first-line adjuvant treatment. All women underwent hysterectomy; it appears that fertility-preserving surgery is not currently an option when treating such tumors. Median overall survival of women following surgery for endometrial YSTs is 28 months (range, 8–72 months).[1]

Address for correspondence: Dr. Ying Zheng, Department of Obstetrics and Gynecology, West China Second Hospital, Sichuan University, Chengdu, Sichuan 610041, China
E-Mail: 18180609071@163.com

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Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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