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Case Report

Endometrioid adenocarcinoma with choriocarcinoma differentiation: A case report

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Summary

Rationale: Endometrioid adenocarcinoma is a common type of endometrial cancer, while endometrioid adenocarcinoma with choriocarcinoma is rare. *Method:* This report introduced a rare case of endometrial adenocarcinoma with choriocarcinoma with its slight atypical clinical symptom, diagnostic steps, surgical and medical management. Additionally, a discussion addressed the prior reports of endometrioid adenocarcinoma with choriocarcinoma differentiation encountered over the decades. *Implication:* We wrote this article so that clinicians in the field could have a better understanding of endometrioid adenocarcinoma with choriocarcinoma, and the improvement of the levels of diagnosis and treatment for such patients.

Key words: Endometrioid adenocarcinoma; Choriocarcinoma; Uterine cavity; Pelvic MRI; Hysteroscopy; Cervical biopsy.

Introduction

Endometrial cancer ranks third among genital malignancies in women after cervix and ovary, constituting around 6% of new cancer cases in women and accounting for around 3% of all cancer deaths in adult females. The most common histological type is endometrioid adenocarcinoma, constituting approximately 75-80% [1]. Other pathological subtypes include mucinous, clear cell, mixed cell, undifferentiated, and di-differentiated carcinomas [2]. Endometrioid adenocarcinoma of the uterine corpus is a primary endometrial adenocarcinoma characterised by the presence of malignant glandular epithelial cells resembling endometrial cells. The vast majority of patients present with abnormal uterine bleeding, and the uterus is frequently enlarged. The tumour generally appears as a single dominant mass, and most cases arise in postmenopausal women [3]. On the other hand, choriocarcinoma is a rare malignant tumour comprised of mononucleated and multinucleated trophoblasts, mainly originating in the uterus of pregnant women and occasionally in the ovaries [4]. It is characterised pathologically by the presence of malignant trophoblastic cells, and biochemically by the production of the β-human chorionic gonadotropin (β-hCG) in the absence of an ongoing pregnancy. Choriocarcinoma tends to be invasive as well as metastasise early and widely through both the venous and lymphatic systems. It is classified as two types in origin, gestational choriocarcinoma and the nongestational germ cell tumour [5].

Case Report

Patient: A 55-years-old post-menopausal woman presented with irregular vaginal bleeding for two months. The bleeding amount was small, dark red-coloured, started six months after menopause, and later increased with clots before hospitalisation. A gynaecological examination revealed a small amount of dark red coloured blood in the vagina along with hypertrophied cervix. Pelvic magnetic resonance imaging (MRI) demonstrated a large cervical mass along with noticeable enlargement of a right pelvic lymph node. Diagnostic hysteroscopy, dilation and curettage (D&C) were performed.

Diagnostic Approach: Serum β-human chorionic gonadotropin (β-hCG) level was 9421 mIU/mLmL. Pathological examination revealed: (1) endocervical curettings: endometrioid adenocarcinoma (WHO grade 2), and trophoblastic hyperplasia in flaky necrotic tissue; (2) endometrial sample: endometrioid adenocarcinoma (WHO grade 2), and significant hypertrophic trophoblastic cells in large amount of necrotic tissue (see Figure 1). Choriocarcinoma could not be excluded. A diagnosis of endometrial cancer stage II, with suspected choriocarcinoma was made. Chest CT revealed no evidence of metastasis.

Surgical Approach: Laparoscopic hysterectomy bilateral salpingo-oophorectomy, pelvic and para-aortic lymphadenectomy were performed. Serum β-hCG level was 84 mIU/mL on the 10^{th} postoperative day, and 25 mIU/mL on the 15^{th} day. Postoperative pathological examination revealed: (1) uterine cavity: poorly differentiated endometrioid adenocarcinoma with areas of choriocarcinoma with large amount of necrosis. The cancer invaded less than one-half of the myometrial thickness. The cervix was not involved. There was lymphovascualr invasion. (2) Uterine adnexa showed endometriosis. (3) Pelvic and para-aortic lymph nodes examination revealed no involvement with cancer. Immunohistochemistry was done (see Table 1), and accordingly a final diagnosis of uterine endometrioid ade-

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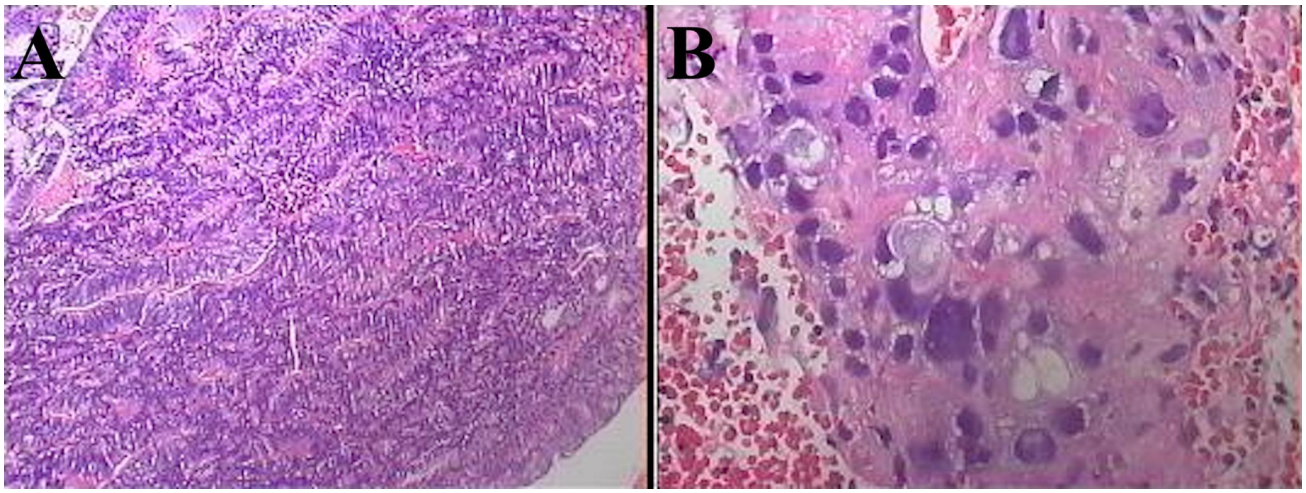

Figure 1. — Histopathological findings before surgical approach. (A) Endometroid adenocarcinoma component, WHO grade II. (B) Trophoblasts in the necrotic tissue. It was not possible to judge whether there was infiltrative choriocarcinoma in the curettage tissue. Thus, the final diagnosis was made on the hysterectomy specimen.

Table 1. — *Immunohistochemical findings.*

Serial No.	Test parameters	Test values
1	PCK	+
2	βhCG	+
3	PLAB	-
4	α -Inhibin	-
5	CK8/18	+
6	Vimentin	-
7	CD10	+
8	ER	-
9	PR	-
10	CA125	-
11	P16	-
12	P53	+
13	Ki67	LI60%
14	CD34	Vascular +
15	WT	-
16	P57	-

nocarcinoma with choriocarcinomatous differentiation was made. A board meeting was conducted on the 17^{th} day after surgery and systemic chemotherapy was recommended. The patient was discharged on that day with plans to receive chemotherapy in two weeks.

Chemotherapeutic Approach: Complete auxiliary examinations were performed before initiating chemotherapy. No apparent abnormalities were found in blood, liver and kidney function, electrolytes, and coagulation. ECG was normal. Full assessment revealed no contraindications to chemotherapy; thus, informed consent was taken from the patient and the patient's attendants after explaining the possible risks and complications of chemotherapy. Combination therapy consisting of docetaxel and nedaplatin was administered on day 1 based on the patient's body surface area. The patient's vital signs, continued ECG and side effects were monitored during and after chemotherapy for 24 hours. On the first and second day of the first chemotherapy cycle the patient complained of occasional dizziness, and on the third day, complained of an occasional headache. Routine blood count revealed that white blood cells were low at 2.57×10^9/L. Once the patient was stable, and the blood count was normal, the patient was discharged on the 6^{th} day after chemotherapy. The patient was advised to have a blood count every three days, liver and kidney function test once a week, and to receive the second chemotherapy treatment in two weeks. The chemotherapy was administered in a 21-day cycle. A total of four cycles of chemotherapy were administered. The patient was also advised to check serum β-hCG levels every 3 days until in the normal range of 0-5.3 mIU/mL, and after 3 consecutive negatives to check it monthly for 6 months, then every 2 months for another 6 months. The patient's serum β-hCG level normalized 36 days after surgery.

Follow-up: After completing chemotherapy the patient was followed every 3 months for the first two years after serum β-hCG normalization. Follow-up assessment and consisted of pelvic ultrasound, chest CT, blood counts, liver and kidney function test after chemotherapy. She is disease-free at 4 years.

Discussion

The present case describes a endometrioid adenocarcinoma with areas of choriocarcinoma. The patient was initially diagnosed with endometrial cancer stage II, with suspected choriocarcinoma. However, the hysterectomy specimen did not show cervical involvement and the final diagnosis was stage IA endometrioid adenocarcinoma with a choriocarcinoma component. The management was done in two steps consisting of surgery followed by chemotherapy.

In 1972, a case of uterine corpus carcinoma (serous papillary adenocarcinoma) with choriocarcinomatous differentiation was first reported by Civantos F. *et al.* [6]. Fifteen years later, the first case of endometrioid adenocarcinoma of the uterine corpus with choriocarcinomatous differentiation was reported by Savage J. *et al.* [7]. In 1991, another case of endometrial carcinoma with trophoblastic differentiation was reported by Pesce C. *et al.* [8]. Since then, a few additional reports of uterine adenocarcinomas with choriocarcinomatous differentiation have been published [4, 9-13]. In 2006, another case of serous papillary adenocarcinoma of the endometrium with choriocarcinomatous differentiation was reported by Horn LC. *et al.* [14].

Choriocarcinomatous differentiation has also been reported with other cancer types [15-17]. These multiple reports reveal that this rare cancer is associated with a higher rate of metastatic disease and mortality. Thus, it is essential for gynaecologists, and general practitioners to know more about endometrioid adenocarcinoma with choriocarcinoma, which will eventually contribute to a better management strategy.

Authors' contributions

Afsarunnesa Syeda: case analysis; review of the literature, manuscript writing and manuscript review; Ying Liu: case analysis and manuscript review; Li Fan: data collection, case analysis and critical review of the manuscript.

Ethics approval and consent to participate

The subject was informed in detail before the test specific implementation process and signed an informed consent after a verbal agreement to participate. The study protocol was approved by the Hospital Ethics Committee, Renmin Hospital, Hubei University of Medicine, and institutional review board (IRB), Hubei University of Medicine, Shiyan, Hubei, China.

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Conflict of Interest

The authors declared no conflict of interest.

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