Synchronous primary endometrial and fallopian tube cancers

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Summary

Background: Synchronous primary cancers are relatively uncommon in the general population. We present a case of synchronous primary endometrial and fallopian tube cancers and review the literature. *Case:* The patient, a 54-year-old, gravida 2, para 2 postmenopausal Greek woman presented with a complaint of abnormal vaginal bleeding. She underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy and total omentectomy. The histopathology revealed synchronous primary cancers of the endometrium and right fallopian tube. The patient underwent postoperative chemotherapy and postoperative radiotherapy. She remains well without evidence of disease, 65 months after initial surgery. *Conclusion:* The reason for the better median overall survival of patients with synchronous primary endometrial and fallopian tube cancers is not intuitively obvious. Perhaps it is due to the detection of patients at earlier clinical stage and lower grade disease state.

Key words: Synchronous primary cancers; Endometrial cancer; Fallopian tube cancer.

Introduction

Synchronous primary cancers are relatively uncommon in the general population. The etiology and pathogenesis of this phenomenon remains unclear [1, 2]. It has been postulated that embryologically similar tissues, when simultaneously exposed to hormonal influences or to carcinogens, may develop synchronous cancers [1, 2].

The occurrence of synchronous primary endometrial and fallopian tube cancers is very rare, with only a few cases documented in the literature so far [2-4]. We present a case of synchronous primary endometrial and fallopian tube cancers and review the literature.

Case Report

The patient, a 54-year-old, gravida 2, para 2 postmenopausal Greek woman presented with a complaint of abnormal vaginal bleeding. Her past surgical history was unremarkable. Her family history revealed no evidence of cancer among the first-degree relatives.

On gynecologic examination there was a palpable pelvic mass in the right adnexa. There were no palpable inguinal lymph nodes and the rest of the pelvic examination was normal.

Preoperative computed tomography (CT) of the abdomen and pelvis, and abdominal ultrasound (US) revealed an intraabdominal mass 5 x 3.5 cm in the right adnexa. The endometrium had a width of 9 mm and a monolayer appearance. Preoperative CT of the chest, chest X-ray, intravenous pyelography (IVP), colonoscopy and urethrocystoscopy were normal. Preoperative CA-125 was elevated at 71.6 U/ml.

On exploratory laparotomy, the right fallopian tube was markedly distended, measuring 5 x 3.5 cm. Frozen section showed malignancy and the patient underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy and total omentectomy.

Histopathology revealed synchronous primary cancers of the endometrium and right fallopian tube. The endometrial cancer was adenocarcinoma endometrioid type and invaded less than one-half of the myometrium. The fallopian tube cancer was adenocarcinoma papillary serous type and it was limited to the right fallopian tube without penetrating the serosal surface. The peritoneal washing smear was negative for malignant cells. The final diagnosis was Stage Ib endometrial adenocarcinoma endometrioid type and Stage Ia fallopian tube adenocarcinoma papillary serous type.

The patient underwent postoperative chemotherapy. She received six courses of carboplatinum (AUC 4) and paclitaxel (175 mg/m²). She underwent postoperative radiotherapy. She received 5000 cGy of external radiotherapy and 2000 cGy of intravaginal radiotherapy.

Follow-up 65 months after initial surgery with CT of the chest, abdomen and pelvis, abdominal US, chest X-ray, IVP, colonoscopy and urethrocystoscopy showed no evidence of recurrence.

Discussion

The occurrence of synchronous primary endometrial and fallopian tube cancers is very rare, with only a few cases documented in the literature so far [2-4]. Patients are usually postmenopausal, obese and nulliparous [4]. The main symptoms are abdominal pain, vaginal bleeding and palpable pelvic mass [3, 4]. In our case, the patient was postmenopausal and presented with abnormal vaginal bleeding.

The theory of the "secondary Müllerian system" was proposed to explain the observation of multiple similar cancers in the female genital tract [1, 5]. According to this theory, epithelia of the cervix, uterus, fallopian tubes, ovaries and peritoneal surfaces simultaneously respond to a carcinogenic stimulus [1, 5]. Shared hormonal receptors (estrogen receptors) may be responsible for the development of multiple primary malignancies in predisposed tissue [2, 6].

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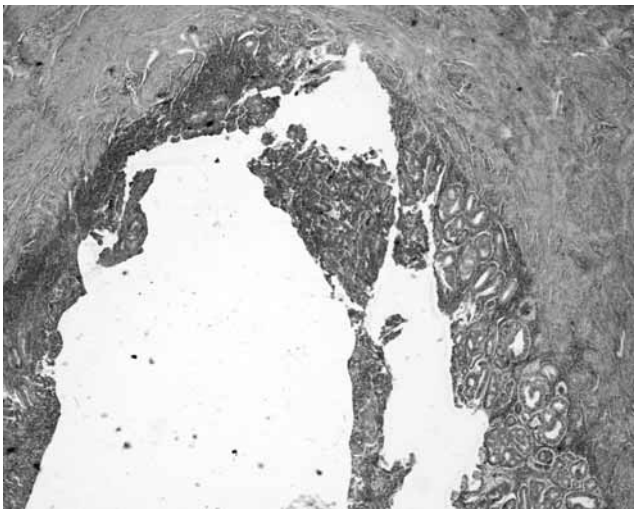
Fig. 1



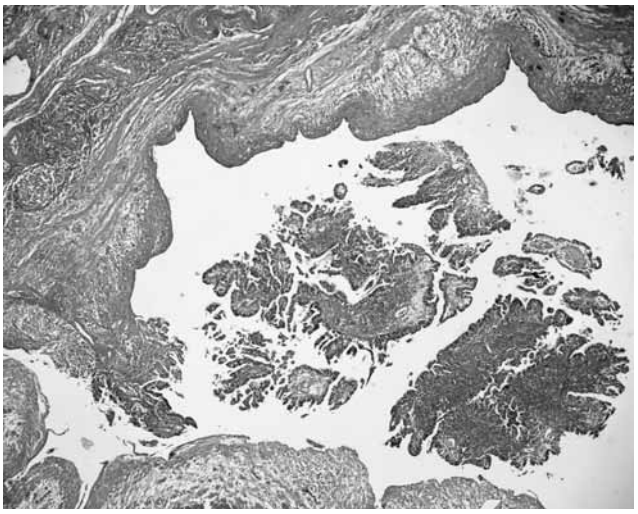


Fig. 2

Figure 1. — Endometrial cancer showing adenocarcinoma endometrioid type.
Figure 2. — Fallopian tube cancer showing adenocarcinoma papillary serous type.

It is also possible that the synchronous presence of these cancers is an indicator of an etiologically distinct condition [7]. Perhaps patients have a more fragile genome and prior genetic damage may predispose them to synchronous cancers [7-9]. Thus, embryologic, hormonal or other phenomena may be associated with the development of malignancies arising simultaneously in genital tissues [1, 2, 5-9].

Synchronous primary cancers may have a similar appearance or may be of different histologic types [2-4]. The distinction between metastatic and synchronous primary cancers is relative easy when they have different histologic types. In our case, we had endometrial adenocarcinoma endometrioid type and fallopian tube adenocarcinoma papillary serous type.

Endometrial cancer usually produces early symptoms, and is diagnosed in over 70% of patients when it is still confined to the uterus [2]. In patients with synchronous primary endometrial and fallopian tube cancers, a clinically silent cancer of the fallopian tube was diagnosed earlier because of the symptomatic endometrial cancer. This may account for the more favorable outcome in these patients [2]. It is also possible that synchronous primary cancers may have an inherently more favorable prognosis, because they are relatively low grade and biologically less aggressive [2].

Because of its rarity, the optimal therapeutic strategy for synchronous primary endometrial and fallopian tube cancers has not been well defined. Treatment of choice of early stage synchronous primary cancers is total abdominal hysterectomy with bilateral salpingo-oophorectomy and total omentectomy [4]. In advanced stage, patients require more aggressive management with adjuvant chemotherapy or radiotherapy after surgery [4].

The reason for the better median overall survival of the patients with synchronous primary endometrial and fallopian tube cancers is not intuitively obvious. Perhaps it is due to the detection of patients at earlier clinical stage and lower grade disease state [2, 4, 10]. More extensive clinical research must be performed to have definite etiologic, diagnostic and management modalities.

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