Successful salvage treatment of recurrent endometrial cancer with multiple lung and abdominal metastases

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Summary

The prognosis of recurrent endometrial carcinoma is generally poor except for isolated vaginal or pelvic relapse without previous radiation. Recurrences associated with infield failure or distant metastasis carry a poor prognosis. We report a case of recurrent endometrial carcinoma treated with cytoreductive surgery, targeted radiation to lung metastasis defined by CT and PET and adjuvant chemo-hormone therapy followed by maintenance progestin therapy with a good outcome. This case implied that chemo-hormone therapy with targeted radiation should be evaluated in recurrent endometrial cancer with positive progesterone receptor for salvage treatment.

Key words: Recurrent endometrial cancer; Chemo-hormone therapy; Targeted radiation; Salvage treatment.

Introduction

The prognosis of recurrent endometrial carcinoma is generally poor except for isolated vaginal or pelvic relapse without previous radiation. Recurrences associated with infield failure or distant metastasis carry a poor prognosis [1-4]. We report a case of recurrent endometrial carcinoma treated with cytoreductive surgery, targeted radiation to residual lung metastasis defined by computed tomography (CT) and positron emission tomography (PET) and adjuvant chemo-hormone therapy followed by maintenance progestin therapy with a good outcome.

Case

A 62-year-old female patient with a history of endometrial cancer presented in July 2002 with left lower abdominal pain and small caliber stool for six months after staging surgery and adjuvant radiation in another hospital two years before. CT showed suspicious peritoneal and lung metastases (Figures 1A/B). There was no organic lesion on her low gastrointestinal series but stenosis of the canal was noted on her sigmoidoscopic study. Serum CA-125 was 97.5 U/ml. Bone scan was negative. There was no palpable neck or inguinal lymph node. Pelvic examination showed no obvious pelvic mass. Review histology slides from her initial surgery revealed well-differentiated endometrioid adenocarcinoma of the endometrium with cervical and ovarian metastasis. PET scan (Figure 2) revealed bilateral lung fields with pleura involved and tumor seedings over intraabdominal and presacral areas. CT-guided biopsy on lung and abdominal tumors showed metastatic adenocarcinoma with progesterone receptor+++ and negative estrogen receptor by immunohistochemical analysis.

Second debulking surgery was performed in which the pelvic seedings and omental tumors were resected. The cytoreductive surgery was suboptimal because of residual multiple subphrenic tumor seedings. Adjuvant chemotherapy with cisplatin (60 mg/m^2) and epirubicin (60mg/m^2 3-weekly) and hormone therapy with megestrol acetate (160 mg daily) were initiated after surgery. Her serum CA-125 was 10 U/ml after four cycles of chemotherapy.

In the interval assessment of tumor response, chest high-resolution CT scan showed regression of previous lung lesions except a left hilar mass. Because of the pulmonary finding, we added radiotherapy of 36 Gy concurrently with chemotherapy

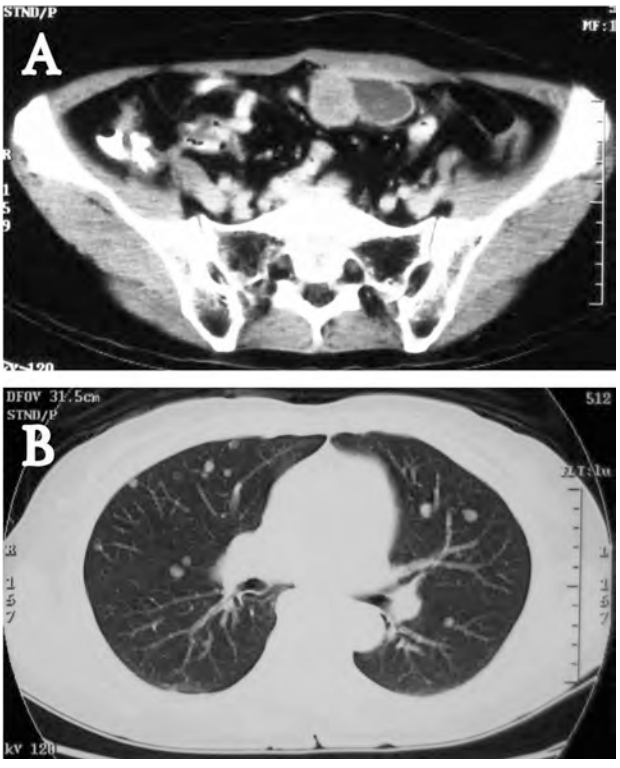

Figure 1. — CT scans show carcinomatosis with (A) intraabdominal tumors and (B) multiple lung metastases.

Revised manuscript accepted for publication July 1, 2010

Fig. 2

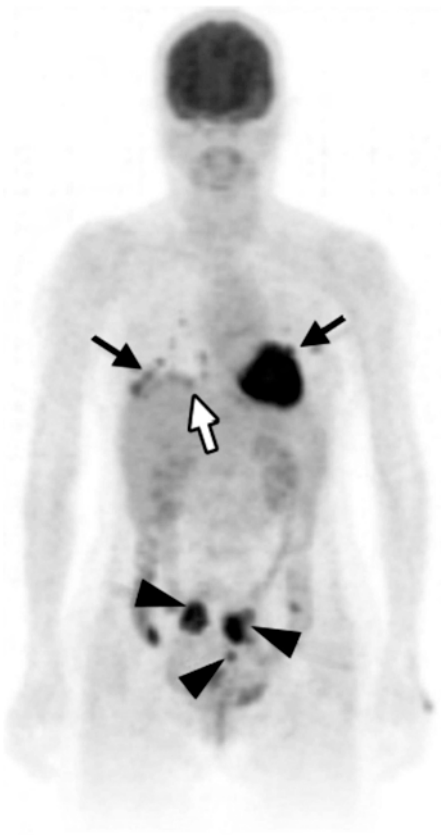

Figure 2. — PET scan reveals bilateral lung fields (arrows) with pleura involved, diaphragmatic seedings (white arrows) and tumor seedings over intraabdominal and presacral areas (arrow heads).

Fig. 3

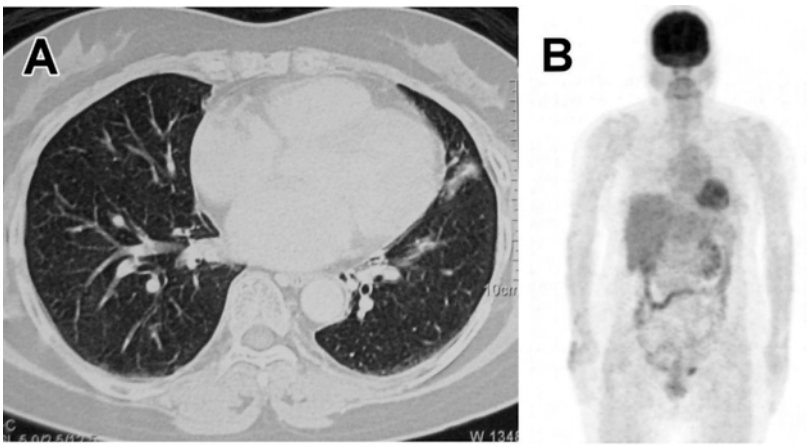

Figure 3. — Chest high-resolution CT shows (A) completely normalized except radiation pneumonitis noted at left upper lung at three months after the 6th course of chemotherapy. PET scan is also negative (B).

(5th and 6th course). During the whole treatment course, we continued with megestrol acetate. Follow-up CT scan (Figure 3A) and PET scan (Figure 3B) were both negative and serum CA-125 was 8 U/ml at three months after the 6th course chemotherapy. Subsequent CT and PET scans were all negative. Megestrol acetate dose was reduced to 80 mg daily six months after complete remission. One year later, pelvic examinations and image studies showed no evidence of disease, and she was maintained with megestrol acetate of 40 mg daily.

The patient felt dyspnea and palpitation four years after recurrence. Atrial fibrillation with congestive heart failure was diagnosed. She was treated with digoxin (0.5 mg/day) and aspirin (100 mg/day). CT scan showed no evidence of recurrence except post-radiation pneumonitis. We therefore discontinued megestrol acetate in August 2006. She remained with no evidence of disease till the last follow-up in December 2009, when the serum CA-125 was 9.8 U/ml.

Discussion

Endometrial cancer is a common malignancy of the female reproductive tract in Taiwan. According to the database from the Department of Health in Taiwan, there were 1,159 new patients in 2006, second to cervical cancer and a 31% increase compared with that in 2002 [5]. After standard staging surgery, the majority of endometrial cancer with early stage has an excellent prognosis [1-3]. The prognosis of in-field failure or disseminated distant metastasis is poor. Options following disease progression after first-line treatment are extremely limited [3].

The role of salvage cytoreductive surgery on recurrent endometrial cancer is undefined. In a case series of 20 patients undergoing surgical resection for recurrent endometrial cancer, the overall survival was significantly better in those without residual tumor than those with suboptimal debulking surgery, 53 months versus nine months [6]. Awtrey *et al*. [7] found that residual disease after second cytoreduction was the sole significant prognostic factor for progression-free and disease-specific survival. Bristow *et al*. [8] compared the survival of the patients treated with surgery (optimal and suboptimal) from those without surgery. They concluded that the amount of residual disease was the only independent predictor of progression-free and overall survival time.

Chemotherapy is considered the mainstay in the management of advanced and recurrent endometrial cancer. The response rate to combination chemotherapy is approximately 34-46%, [2-3, 9]. Targeted therapies for endometrial cancer obtained 0-15.1% response rates in a phase II study [3, 9]. Progestins are the most widely used hormone therapy in the treatment of recurrent or metastatic endometrial cancer [10-13]. The response rate is approximately 11-56%, and median time to progression 2.5-14 months in grade 1 or 2 tumors [11]. Chemotherapy plus sequential hormone therapy with megestrol acetate and tamoxifen achieved 30.8% complete and 46.2% partial response rates in a small phase II study (n = 13) [12]. However, the combination of hormone therapy and

chemotherapy has been considered as having no role outside of the investigative setting [13].

PET is now widely applied on the management of cancer patients. The role of PET in endometrial cancer is relatively less defined because of the lack of data in the literature [14]. Chao *et al*. [15] reported a prospective study of 49 endometrial cancer patients, including 26 for recurrence surveillance and seven after salvage therapy. They concluded that the clinical impact was positive in 73.1% for post-therapy surveillance, and 57.1% after salvage therapy. The value of PET for the current case was defining the extent of recurrences and monitoring response to salvage therapy.

This case indicates that multimodality therapy with cytoreduction surgery, chemo-hormone therapy and targeted radiation has successfully accomplished a long-term disease-free survival for a patient with recurrent endometrial cancer of extremely poor prognosis. Chemo-hormone therapy with targeted radiation should be evaluated in recurrent endometrial cancer with positive progesterone receptor for salvage treatment.

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