Case Report

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A case of stomach cancer metastatic to the uterine cervix

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Signet-ring cell carcinoma presenting in the uterine cervix is rare. Although the incidence is rare, the gastrointestinal tract should be considered as a possible primary site of metastatic uterine cervical cancer. We experienced a patient who underwent radical subtotal gastrectomy with right hemicolectomy and adjuvant chemotherapy due to gastric cancer and subsequently suffered from recurrence at the uterine cervix. Laparoscopic radical hysterectomy with bilateral salpingo-oophorectomy with pelvic lymph node dissection was performed. We report a case of the stomach cancer metastatic to the uterine cervix.

Key words: Stomach neoplasms; Uterine cervical cancer; Signet-ring cell carcinoma

Introduction

Metastatic uterine cervical carcinomas are generally originated from intrapelvic organs. However, the metastases from extrapelvic organs are rare.[1-6] Kumar and Hart[7] demonstrated that uterine cervical carcinomas arise primary in the breast (42.9%), colon (17.5%), stomach (11.1%), pancreas (11.1%), gallbladder (4.8%), lung (4.8%), cutaneous melanoma (3.2%), urinary bladder (3.2%), and thyroid (1.6%). Among these, it is a rare case that uterine cervical cancer is caused and spread from stomach cancer not only in Asian countries, but also in the Western countries. In spite of rare case, it is important to consider a relationship between metastatic cervical cancer and primary stomach cancer because the incidence of these cancers is relatively high in Asian, including Korea and Japan.

Herein, we report a case of a 32-year-old woman who underwent radical subtotal gastrectomy with right hemicolectomy and adjuvant chemotherapy due to stomach cancer and then suffered from recurrence at the uterine cervix.

Case Report

Patient was a 32-year-old woman who underwent radical subtotal gastrectomy (Billroth I) and right hemicolectomy due to stomach cancer at April 2006. At that time, the pathologic result showed stage II stomach cancer (T3N0M0) and 7.5×6.8×2.3 cm sized Borrmann (unclassified)-type mass was observed at lower 1/3 of antrum and central part of posterior wall of the stomach. Histological type was tubular adenocarcinoma with poor differentiation and a diffuse type according to the Lauren's classification. There was no lymph nodes metastasis. The patient underwent 9 cycles of combination chemotherapy of irinotecan, 5-FU and leucovorin as a postoperative adjuvant therapy from May 2006 to November 2006 and has been followed up.

The patient visited our institution in March 2009 due to vaginal bleeding and lower abdominal discomfort for

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2 months. She did not experience loss of weight or menstrual irregularity in the previous 6 months. She had family history of hypertension and cerebral stroke. On the pelvic examination, the uterus was antroversioned, and a hard and movable mass was palpable at posterior part of the uterine cervix. Result of Pap smear showed adenocarcinoma. The result of biopsy at the exocervix and endocervix was metastatic adenocarcioma, with partly signet ring cell feature, clinically from the stomach. Magnetic resonance imaging and F-18 flurodeoxyglucose (FDG) positron emission tomography/computed tomography also showed a 3.0×2.4 cm mass in the central part of the uterine cervix with suspicious parametrial invasion and increased FDG uptake (Fig. 1). Serum carcinoembryonic antigen level was 1.19 ng/mL and squamous cell carcinoma antigen (SCC Ag) level was 0.7 ng/mL. Serum CA19-9 and CA-125 level was 1680.0 U/mL and 13.5 U/mL, respectively. Based on results of these imaging studies and pelvic examination, the patient was diagnosed as metastatic cervical cancer from stomach cancer. Therefore, laparoscopic radical hysterectomy with bilateral salpingo-oophorectomy and pelvic lymph node dissection was performed. The final pathologic diagnosis was metastatic adenocarcioma, with partly signet ring cell feature, involving endocervix from pericervical soft tissue to mucosa, clinically from the stomach. The patient discharged on postoperative day 6 without complication. At 3 weeks after surgery, she underwent postoperative adjuvant chemotherapy in oncology with TS-1/CDDP (gemeracil 7.25 mg, oteracil potassium 19.6 mg, tegafur 25 mg, cisplatin 85 mg) in three week intervals and received 2 cycles. After chemotherapy, the patient wanted to stop treatment and then was lost to follwed up in outpatient clinic.

Patholohistologic findings

The serous surface of uterus was smooth and its weight and size was 189 g and 11×5×4 cm, respectively. The thickness of endometrium was 2 cm and 4×2 cm sized round mass invaded serosa. About a 2×1 cm mass protruding to uterine cervix was observed (Fig. 2). No histology showing tumor cells were observed in either the ovaries or the fallopian tubes. Tumor cells were not observed at intraperitoneal cytology evaluation. The immunohistochemical analysis of the specimens was performed. The left parametrial tissue, presenting with a few atypical

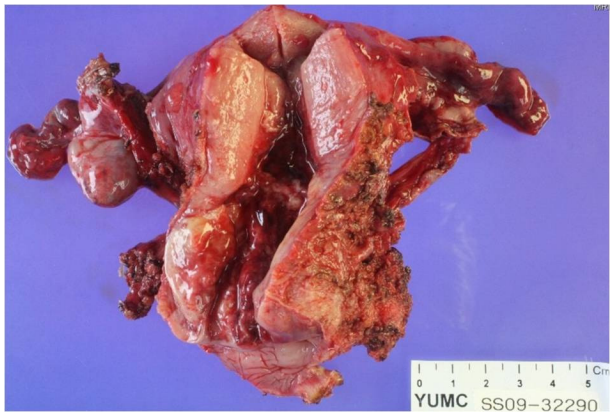

Fig. 2. The gross appearance of the resected uterus with parametrial tissue.

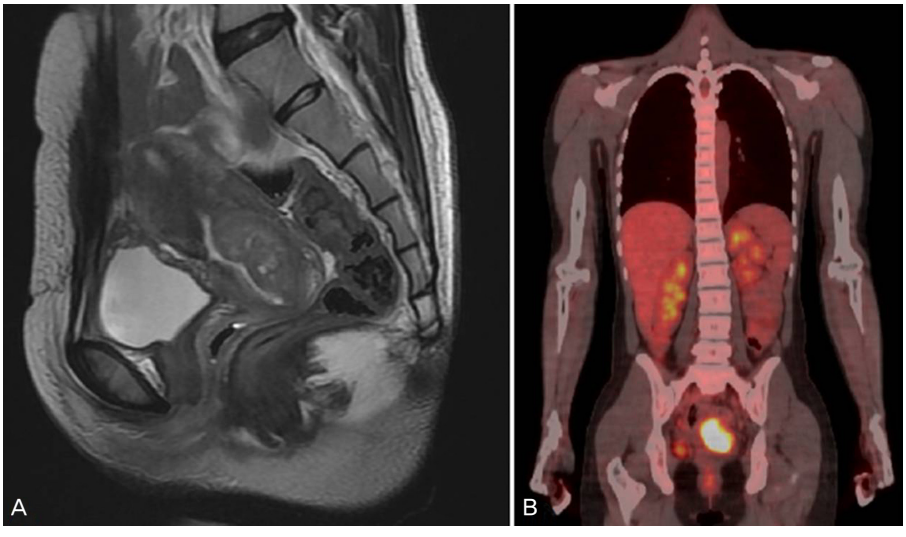

Fig. 1. (A) Magnetic resonance image shows that a mass is located in the uterine cervix with parametrial invasion. (B) F-18 flurodeoxyglucose (FDG) positron emission tomography/computed tomography shows that there is increased FDG uptake in the cervical mass, consistent with malignancy.

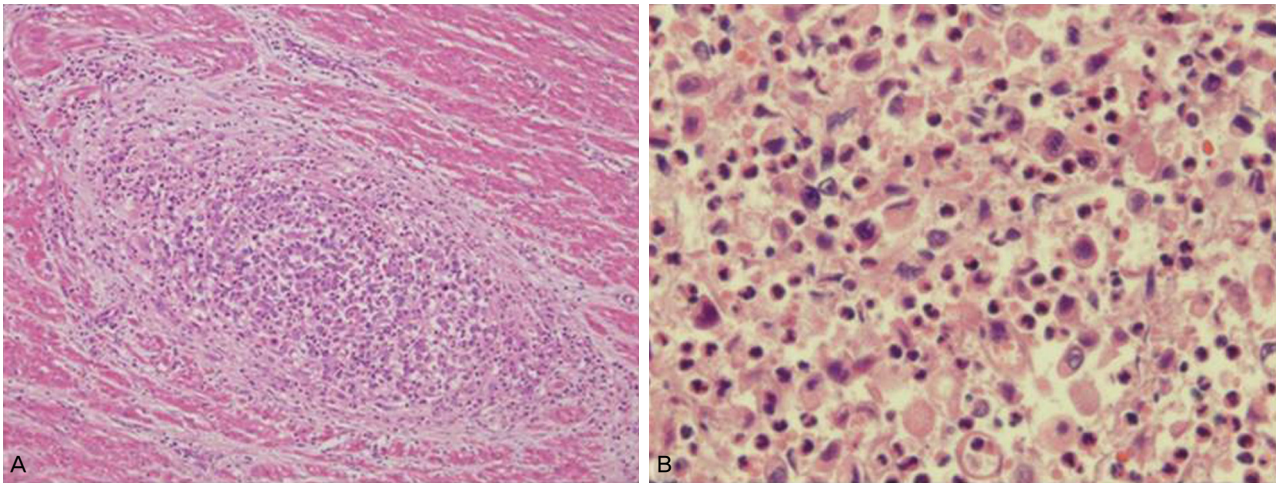

Fig. 3. Microscopic findings of metastatic adenocarcinoma with signet ring cell feature. (A) H&E, ×100. (B) H&E, ×400.

cells, were diffusely positive for cytokeratin AE1-AE3, carcinoembryonic antigen (Fig. 3).

Discussion

It is common that intrapelvic organ-originated carcinomas are metastasized to uterus. However, it is rare that extrapelvic organ-originated malignant carcinomas are metastasized secondly to the uterus.[1-6] Additionally, uterine cervical adenocarcinoma occupies 15-20% of all the uterine cervical cancer and its majority is the endocervix-originated adenocarcinoma.[6,8,9] Of these, metastatic cervical cancer with signet-ring cell feature is extremely rare; when found, it nearly always represents a metastasis, usually from the stomach and rarely from colon, ovary, breast, and lung.[4] The metastases to uterine cervix are often transmitted by lymphovascular system. In this case, we suspected primary gastrointestinal tract carcinoma was reversely transmitted by lymphatic system as an unusual occurrence. It's rare incidence can be explained as follows. The uterine cervix is composed of fibrin tissues unfavorable for growth of metastatic cells. In case of relatively small and less vascularized status, pelvic lymphovascular system flows away from uterine cervix. Moreover, when diagnosed as uterine cervical adenocarcinoma, it is difficult to suspect and diagnose that the carcinoma was metastasized from another site. Because women with adenocarcinoma of breast or gastrointestinal tract can be neglected in uterine cervical examination, an evaluation of the uterine cervix, such as cervical biopsy, is not properly conducted and the metastasis cannot be diagnosed at time. Stemmermann[5] recommended that uterine metastasis always had to be considered when patients experienced abnormal vaginal bleeding with a history of diagnosis and treatment of primary extrapelvic-originated carcinoma.[3,10] Suarez-Penaranda et al.[6] reported two cases that patients with stomach cancer had abnormal vaginal bleeding and metastases to the uterine cervix were found after uterine cervical biopsy. Similarly, we experienced a case of a 32-year-old woman who gradually underwent irregular menstruation cycles, menorrhagia and lower abdominal pain after treatment for stomach cancer and was histologically proven intrauterine exclusive metastatic adenocarcinoma with partly signet ring cell feature, clinically from the stomach. Treatment of metastatic adenocarcinoma of the cervix does not differ from one of recurrent cervical cancer. The salvage therapy with chemotherapy is used mainly and the prognosis of patients is very poor regardless of the hysterectomy. Imachi et al.[1] reported uterine cervical metastasis in gastric cancer patients treated with cisplatin-based chemotherapy, but there was no improved survival outcome.

In conclusion, metastatic cancer to the uterine cervix always has to be considered when patient experiences abnormal vaginal bleeding with a history of primary gastrointestinal tract carcinoma. In addition, patient who diagnosed as metastatic cervical cancer needs to fully evaluate the existence of primary extrapelvic-originated carcinoma, including stomach, though the incidence is rare.

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