Metastatic gastric cancer mimicking an advanced cervical cancer: A case report

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Summary

Background: Metastasis to the uterine cervix from non-gynecologic neoplasms is rare. However, metastatic tumors sometimes precede the diagnosis of a primary tumor, and may lead to diagnosis of the primary tumor. *Case:* A 50-year-old woman was referred to us complaining of increasing right flank pain. Computed tomography scan demonstrated an enlarged uterus with right-sided hydronephrosis and hydroureter. Cervical cytology revealed adenocarcinoma. She was considered to have a Stage IIIB cervical adenocarcinoma. Although no cervical lesion was seen colposcopically, histopathology from biopsies of the uterine cervix revealed poorly differentiated adenocarcinoma infiltrating around the normal endocervical glands. A metastasis from the gastrointestinal tract was suspected. The patient underwent gastroscopy and was found to have Borrmann type IV gastric cancer. Biopsies confirmed a poorly differentiated adenocarcinoma with signet ring cells. *Conclusion:* Physicians should bear in mind that metastatic tumors may precede the diagnosis of a primary tumor and could manifest by mimicking advanced cervical cancer.

Key words: Gastric cancer; Metastasis; Uterus.

Introduction

Metastasis to the uterus from extragenital malignancies is rare and is typically diagnosed in patients with known primary cancer or at autopsy [1]. However, metastatic tumors sometimes precede the diagnosis of a primary tumor and may lead to diagnosis of the primary tumor. In this paper, we present a case of gastric carcinoma that presented mimicking a FIGO (the International Federation of Gynecology and Obstetrics) Stage IIIB cervical cancer.

Case Report

A 50-year-old, gravida 2 para 2, Japanese woman with regular menstrual cycles noticed right flank pain. The pain gradually worsened over a week, and she became unable to lie down easily. Her past medical history included bilateral endometrial cysts, which had been managed by her primary gynecologist for over ten years. Routine cervical cytology taken three months earlier was normal. She consulted an orthopedic physician regarding her pain and was referred to our hospital for further investigation. After computed tomography scan revealed an enlarged uterus with right-sided hydronephrosis and hydroureter, she was referred to our department for a presumed uterine tumor. On pelvic examination, the uterine cervix was enlarged with increased consistency and tenderness. Cervical cytology revealed clusters of adenocarcinoma cells. Her serum CA19-9 was elevated to 335.1 U/ml, and CEA, CA125 and SCC were within normal limits. Although these findings led to us to presume that she had a FIGO Stage IIIB cervical adenocarcinoma, no cervical lesion was seen colposcopically. Magnetic resonance imaging (MRI) also failed to demonstrate any cervical tumor. However, random biopsies from the uterine cervix demonstrated poorly differentiated adenocarcinoma infiltrating around the normal endocervical glands (Figure 1). Immunohistochemically, the adenocarcinoma cells were positive for cytokeratin 7 (CK 7), and negative for CK 20, MUC2 and M-GGMC-1. Periodic acid-Schiff (PAS) and alcian blue stains were positive. Based on these findings, metastasis from the gastrointestinal tract was also included in the differential diagnosis. She underwent gastroscopy and was found to have thickened gastric folds with hemorrhagic mucosa of the gastric body, suggestive of Borrmann type IV gastric cancer (Figure 2). Biopsies taken from the ulcerative lesion revealed poorly differentiated adenocarcinoma with signet ring cells. Immunohistochemical studies also demonstrated similar staining patterns to the cancer cells found in the uterine cervix. These findings were interpreted as a metastasis from stomach cancer to the uterine cervix.

Palliative chemotherapy was recommended, but the patient refused for religious reasons. Two weeks later, she was admitted to the hospital for cancer pain with increased ascites and a pleural effusion. She received palliative chemotherapy with S-1 and supportive care, but she died of the disease two months after admission.

Discussion

Metastasis to the female genital tract from extragenital neoplasms is rare [2]. Mazur *et al*. analyzed 325 cases of metastasis to the female genital tract and reported that only 149 (45.8%) were of extragenital primary origin, with the ovaries and vagina being the most frequently affected sites (81%) regardless of the location of the primary [2]. The uterus is rarely a metastatic site, with some 200 cases reported to date [3, 4]. In particular, the uterine cervix is less affected than the uterine corpus and comprises only 20% of total uterine metastases [3]. Piura et al. reviewed 40 cases of metastases to the uterine cervix from extragenital cancers and reported that the most common site of the primary was the breast, followed by the

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Fig. 1

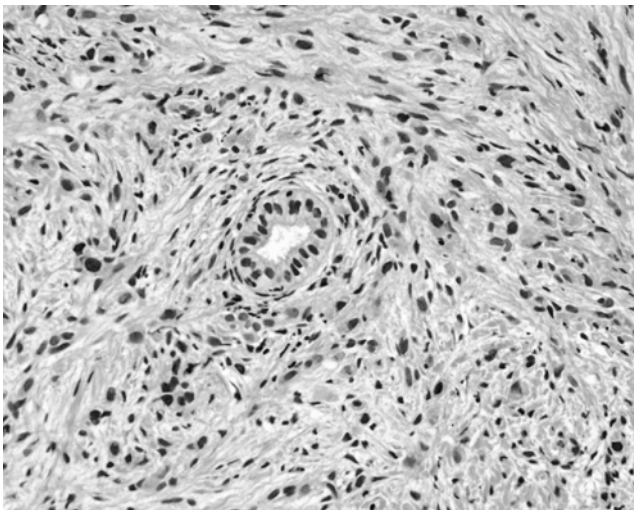

Figure 1. — Section of the uterine cervix showing poorly differentiated adenocarcinoma infiltrating around normal endocervical glands (HE staining 40×).

Fig. 2

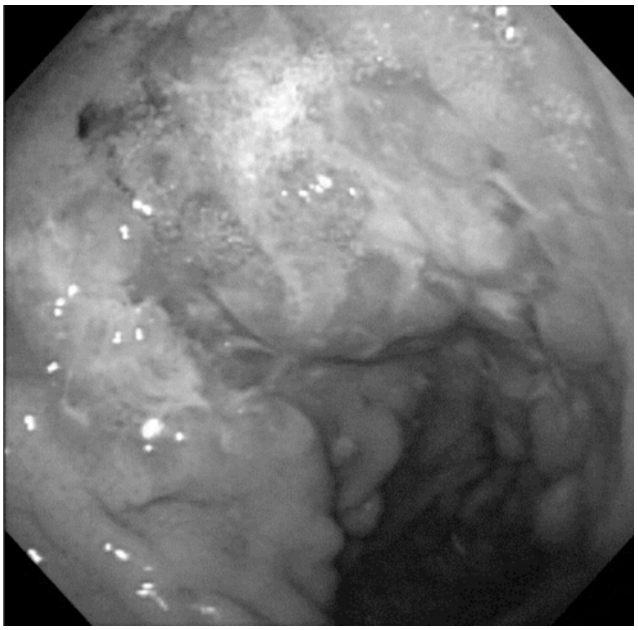

Figure 2. — Endoscopic view of the patient showing Borrmann type IV gastric cancer.

stomach [3]. However, the relative frequencies of the various primary tumors are considered to simply reflect the prevalence of these tumors in the population at risk [2].

The potential routes for metastasis of non-gynecologic carcinomas to the uterine cervix include hematogenous spread, retrograde lymphatic spread, and transperitoneal seeding with either transtubal spread or penetration from the cul de sac [5]. The reasons for the relative rarity of metastasis to the uterine cervix are not fully understood, but the high fibromuscular tissue content and low degree of vascularity of the cervix are believed to be an unfavorable medium for metastatic growth [5]. In addition, the cervix has lymphatic channels that drain centrifugally and metastasis via this route can occur only when distant channels are too blocked by tumor to allow retrograde flow [6]. In the present case, the patient had a ten-year history of bilateral endometriomas. The MRI demonstrated bilateral cystic tumors with high and intermediate signal intensity on T1-, and T2-weighted images, respectively. The MR imaging of Krukenberg's tumor shows various morphologic characteristics and signal intensity patterns [7]. Although we did not have histologic confirmation, the possibility that metastasis to the uterine cervix was secondary to an ovarian metastasis cannot be excluded.

Although metastases to the female genital tract are infrequent, uterine metastasis could be the first manifestation of disease. However, it is extremely rare for these lesions to be found at the metastatic site mimicking an advanced stage of disease. Treszezamsky et al. reported a case of gastric carcinoma that presented with renal failure due to ureteral obstruction [8]. Martinez-Román et al. presented a case of metastatic gallbladder cancer mimicking a Stage IIIB cervical cancer [5]. To the best of our knowledge, this is the third case report of metastasis to the uterine cervix mimicking a FIGO Stage IIIB cervical cancer. To summarize, physicians should bear in mind the possibility that metastatic tumors may manifest mimicking an advanced stage cervical cancer.

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