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PRIMARY SIGNET RING CELL CARCINOMA OF THE UTERINE CERVIX: A CASE REPORT

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Primary signet ring cell carcinoma of the cervix is extremely rare. A 47-year-old woman visited for postcoital vaginal bleeding during the last six months. Gynecologic examination revealed mild cervical erosion and touch bleeding. Colposcopic punch biopsy revealed a signet ring cell type of mucinous adenocarcinoma. The patient underwent radical hysterectomy with bilateral salpingo-oophorectomy, pelvic lymph node dissection, and para-aortic lymph node dissection. Microscopically, the tumor mainly consisted of two different types of cells; mixed signet ring cell carcinoma (70%) and mucinous carcinoma of intestinal type (30%). The patient died in 6 months after operation. The prognosis of primary signet ring cell adenocarcinoma of the uterine cervix is still unclear because of the extremely rare incidence of cases. In this case, we could suggest that this type of carcinoma has an aggressive behavior.

Keywords: Signet ring cell carcinoma, Uterine cervical neoplasm, Adenocarcinoma

Carcinoma of the uterine cervix is the most common malignancy in female genital tract, and squamous cell carcinoma is the commonest of them. Adenocarcinomas of the uterine cervix have increased in both relative and absolute frequency. The current frequency of cervical adenocarcinoma is 15-20% of all cervical carcinomas and most of them are endocervical type [1]. Adenocarcinomas with signet ring cell are mostly metastatic from gastric, breast, colonic or ovarian carcinomas and primary tumor is extremely rare [2-4]. We describe an unusual case of woman with having primary signet ring cell carcinoma of the uterine cervix.

Case Report

A 47-year-old woman, gravida 5, para 4, visited her gynecologist for postcoital vaginal bleeding during the last six months. She denied ever taking oral contraceptives and never complained of gastrointestinal symptoms. Gynecologic examination revealed mild cervical erosion and touch bleeding. The physician decided to perform a cervical cytologic examination and endocervical curettage. Histopathologic examination of the former showed poorly differentiated carcinoma of undetermined type and the latter showed small cell carcinoma. Colposcopic punch biopsy was done and the result was a signet ring cell type of mucinous adenocarcinoma. The results of laboratory studies including analysis of tumor markers were all within normal limits (squamous cell carcinoma related antigen 0.8 ng/mL, CA-125 17.3 U/mL, carcinoembryonic antigen [CEA] 1.0 ng/mL). Human papilloma virus (HPV) type 18 and 16 were negative.

We tried to find an extragenital primary tumor. Abdominopelvic magnetic resonance imaging (MRI) demonstrated about 5×10 mm size mass in the endocervical canal and did not demonstrate any possibility of metastatic tumor or tumor derived from other origins. Whole body positron emission tomography showed only increased flurodeoxyglucose uptake along the deep portion of endocervical canal suggesting malignant tissue but no other abnormal finding.

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Gastroscopy, colonoscopy, intravenous urography and cystoscopy showed no abnormalities.

Under the diagnosis of the International Federation of Gynecology and Obstetrics (FIGO) stage IB1 cervical cancer, radical hysterectomy was performed. At laparotomy, the uterus, ovaries, and tubes were grossly normal but about 1 cm size mass in the endocervical canal appeared when we longitudinally incised the uterus and cervix. There was no other pathologic finding in the pelvic cavity and abdomen. She underwent radical hysterectomy with bilateral salpingo-oophorectomy, pelvic lymph node dissection, and paraaortic lymph node dissection.

Macroscopically, the tumor measured 12×7×15 mm in size, and was observed to be located in the endocervix. There were multiple lymphatic tumor emboli but the tumor did not invaded parametrium and vaginal mucosa. The ovaries, uterus, uterine tubes and lymph nodes were unremarkable.

Microscopically, the tumor mainly consisted of two different types of cells; signet ring cell type (70%) and intestinal type (30%). The cytological feature was the presence of variably sized intracytoplasmic vacuoles, some of which compressed the nuclei, taking the form of a signet ring cell-type of cell (Fig. 1A). In intestinal type, the adenocarcinoma had the characteristic pattern with cystic glandular structures. The glands were lined by stratified tall columnar like cells with modest amounts of amphophilic cytoplasm (Fig.

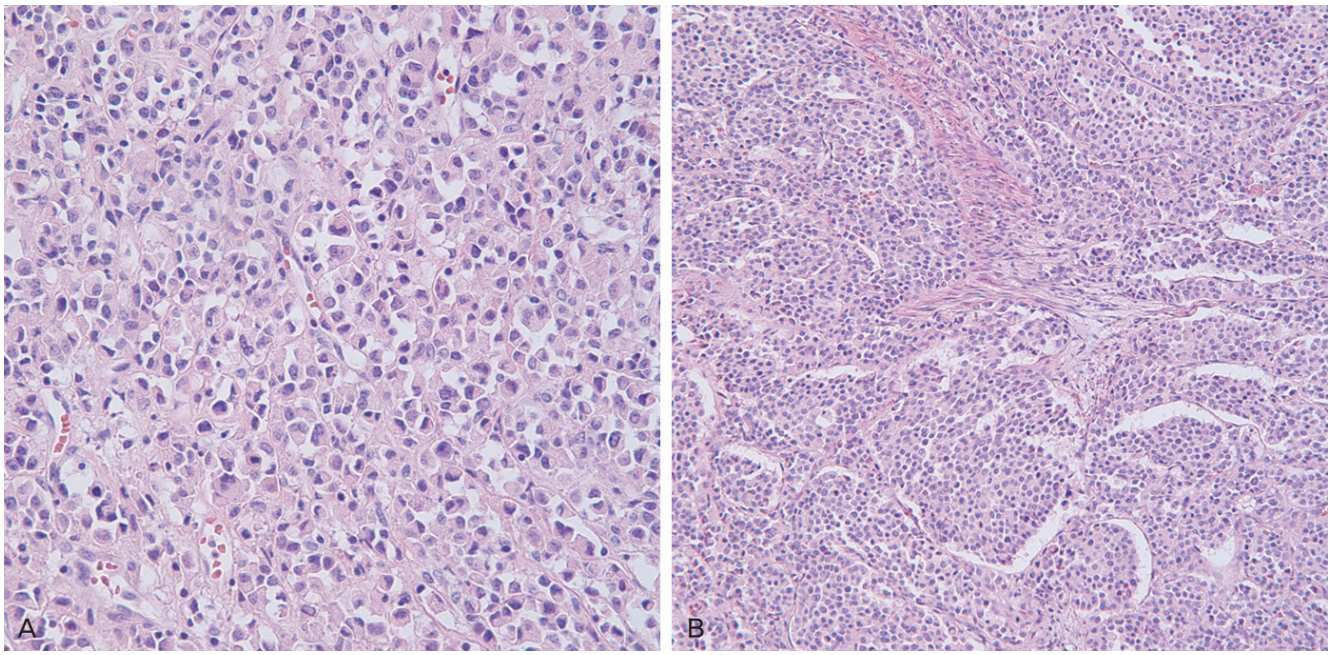

Fig. 1. Microscopic findings of the tumor. (A) Signet ring cell: intracytoplasmic vacuoles, some of which compressed the nuclei, taking the form of a signet ring cell-type (H&E, ×400). (B) Intestinal type: characteristic pattern with cystic glandular structures lined by stratified tall columnar like cells with modest amounts of amphophilic cytoplasm (H&E, ×200).

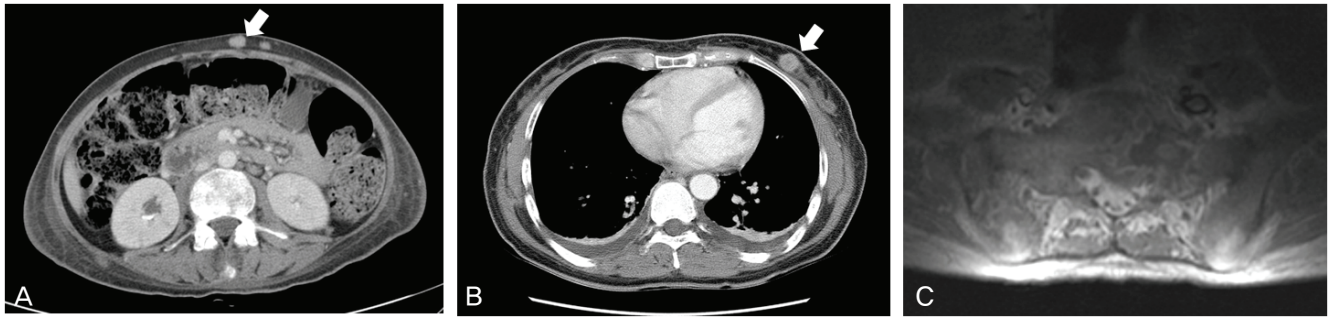

Fig. 2. Computed tomography and magnetic resonance imaging findings of 5 months after operation. (A) Abdomen: several enlarged abdominal paraaortic lymph nodes and multiple metastatic subcutaneous nodules (arrow). (B) Chest: bilateral enhancing nodular pleural thickening and subcutaneous nodule (arrow). (C) Spine: heterogenous enhancement of sacrum and iliac bone suggesting diffuse metastasis.

1B). In immunohistochemical stain, the tumor cell showed positivity of p53 and Rb.

Although we had recommended adjuvant concurrent chemoradiation therapy, she denied further therapy. After 4 month of operation, the patient returned to outpatient clinic, because of motor weakness of both lower extremities. Abdominopelvic computed tomography (CT) scan revealed several enlarged abdominal paraaortic lymph nodes and multiple small subcutaneous nodules. Chest CT showed multiple metastatic nodules in the left back, chest wall, mediastinum and axilla and spinal MRI showed diffuse metastatic lesions from fourth cervical spine to sacrum and bilateral iliac bone (Fig. 2). Pathologic finding of spinal biopsy consistently revealed metastatic signet ring cell carcinoma. The patients died from obstructive urinary tract infection 6 months after the operation.

Discussion

Histologic types of uterine cervical adenocarcinoma are mucinous, endometrioid, papillary and clear cell adenocarcinoma. Mucinous adenocarcinoma of the uterine cervix has subtypes: endocervical, intestinal, and signet-ring cell [4]. Signet-ring cell adenocarcinoma in the female genital tract most commonly involves the ovary and mostly presents a metastasis from the stomach [2]. In the literature, primary signet-ring cell carcinoma of cervix is extremely rare [5]. The signet ring cells shows focal finding in a conventional adenocarcinoma and pure primary signet ring carcinomas of the cervix rarely occur [6]. In this case, we found that 70% of signet ring cell type and 30% of intestinal type are mixed as described above.

It is impossible to differentiate between primary from metastatic tumor on cytology smear. Haswani et al. [4] described following the features of primary cervical tumor; 1) previous history of cervical HPV infections; 2) association with endometrioid, including adenosquamous and clear cell, carcinoma; 3) coexistent high grade squamous intraepithelial lesion and adenocarcinoma in situ with invasive disease; 4) HPV type 18 in tumor tissue; 5) immunoreactivity of primary cervical adenocarcinoma for colorectal type cancer antigens is not considered specific for metastatic cervical disease for 80% of endocervical adenocarcinomas which stain positively for CEA and sialomucins; and 6) the negative immunostaining reaction for estrogen receptor and progesterone receptor does not exclude primary cervical neoplasms. In clinical setting, complete history and work up are needed to exclude the possibility of metastatic lesion.

Although some studies have shown no differences in survival between adenocarcinoma and squamous cell carcinoma, the majority have shown that adenocarcinoma carries a worse prognosis with 10-20% difference in 5-year overall survival rates [7]. The prognosis of primary signet-ring cell adenocarcinoma of the cervix is not well known as a result of the small number of case reports. To the best of our knowledge, only 10 cases of primary signet ring cell carcinoma in the uterine cervix previously have been reported [4-6,8-12]. Three cases have documented survival time longer than 2 years and one case of them showed extended survival in a low stage tumor (8 years, FIGO stage IB) [8,12]. In a Korean case, survival period after operation and concurrent chemoradiation therapy was only 6 months like in this case [9]. In some cases, the follow-up period is too short to draw convincing conclusions (shorter than a year) [4,10,11].

In summary, we report a case of primary signet ring cell carcinoma of the uterine cervix with extremely poor prognosis. Further evaluation and analysis for this type of carcinoma should be needed.

References

1. Young RH, Clement PB. Endocervical adenocarcinoma and its variants: their morphology and differential diagnosis. Histopathology 2002;41:185-207.
2. Imachi M, Tsukamoto N, Amagase H, Shigematsu T, Amada S, Nakano H. Metastatic adenocarcinoma to the uterine cervix from gastric cancer. A clinicopathologic analysis of 16 cases. Cancer 1993;71:3472-7.
3. Hopkins MP, Schmidt RW, Roberts JA, Morley GW. Gland cell carcinoma (adenocarcinoma) of the cervix. Obstet Gynecol 1988;72:789-95.
4. Haswani P, Arseneau J, Ferenzcy A. Primary signet ring cell carcinoma of the uterine cervix: a clinicopathologic study of two cases with review of the literature. Int J Gynecol Cancer 1998;8:374-9.
5. Moll UM, Chumas JC, Mann WJ, Patsner B. Primary signet ring cell carcinoma of the uterine cervix. N Y State J Med 1990;90:559-60.
6. Suárez-Peñaranda JM, Abdulkader I, Barón-Duarte FJ, González Patiño E, Novo-Domínguez A, Varela-Durán J. Signet-ring cell carcinoma presenting in the uterine cervix: report of a primary and 2 metastatic cases. Int J Gynecol Pathol 2007;26:254-8.

7. Gien LT, Beauchemin MC, Thomas G. Adenocarcinoma: a unique cervical cancer. Gynecol Oncol 2010;116:140-6.
8. Mayorga M, García-Valtuille A, Fernández F, Val-Bernal JF, Cabrera E. Adenocarcinoma of the uterine cervix with massive signet-ring cell differentation. Int J Surg Pathol 1997;5:95-100.
9. Bae EJ, Ko HG, Ahn YD, Kang GJ, Yoon MS. A case of primary signet ring cell carcinoma of the uterine cervix. Korean J Obstet Gynecol 1999;42:2382-5.
10. Cardosi RJ, Reedy MB, Van Nagell JR, Spires SE. Neuroendocrine signet ring cell adenocarcinoma of the endocervix. Int J Gynecol Cancer 1999;9:433-7.
11. Lee JJ, Cha DS, Han KH, Chung IB, Lee SY, Youm HS, et al. A case of primary signet ring cell adenocarcinoma of the uterine cervix. Korean J Obstet Gynecol 2006;49:2626-30.
12. Insabato L, Simonetti S, De Cecio R, Di Tuoro S, Bifulco G, Di Spiezio Sardo A. Primary signet-ring cell carcinoma of the uterine cervix with long term follow-up: case report. Eur J Gynaecol Oncol 2007;28:411-4.

자궁목에 발생한 원발성 반지세포암종 1예

성균관대학교 의과대학 산부인과학교실
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자궁목에서 발생하는 원발성 반지세포암종은 극히 드물게 보고되고 있다. 내원 6개월 전부터 발생한 성교후 질출혈을 주소로 47세 여자 환자가 본원 산부인과로 전원되었다. 부인과 신체검사에서 경미한 자궁목의 미란과 접촉 출혈을 보였다. 자궁목 확대경을 이용한 조직검사에서 반지 세포암종이 확인되었으며 환자는 근치적 자궁절제술, 양쪽 난소나팔관절제술과 골반 및 대동맥 주위 림프절절제술을 시행받았다. 환자는 수술받고 6개월만에 사망하였다. 원발성으로 발생하는 자궁목의 반지세포암종은 그 발생 빈도가 매우 드물어 예후를 예측하기 어렵다. 우리는 불량한 예후를 보인 자궁목의 원발성 반지세포암종 1예를 보고하고자 한다.

중심단어: 반지세포암종, 자궁목 종양, 선암