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Squamous cell carcinoma of one cervix invading the cavity in a uterus didelphys

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Summary

Purpose: To report a case of a woman diagnosed with squamous cell carcinoma in one cervix invading the cavity ipsilaterally in a uterus didelphys and to discuss the diagnosis and treatment for such coexistences. *Materials and Methods:* A 47-year-old woman was admitted with the complaint of intermittent abdominal pain on the right associated with the anus sank bilge feeling. It was diagnosed with squamous cell carcinoma in the right cervix invading the cavity in a uterus didelphys preoperatively (FIGO classification IIA2). Radical hysterectomy with bilateral salpingo-oophorectomy and bilateral pelvic lymphadenectomy were performed. *Results:* Pathological examination showed non-cornification of squamous cell carcinomas on the right cervix, which extended to the entire wall of the lower uterus; widely vascular tumor emboli and nerve invasion were detected. The smaller uterine and both vaginal walls were not affected. Then paclitaxel and carboplatin chemotherapy and radiation were performed. No findings suggested recurrence during two years of follow-up. *Conclusion:* The treatment for cervical cancer can be challenging because of the anatomical anomaly. Successful treatment is primarily facilitated by detection of such coexistences, and then, with the optimization of the available resources to customize the best possible plan for individual patients.

Key words: Müllerian duct anomalies; Uterus didelphys; Cervical cancer; Treatment.

Introduction

Cervical cancer is one of the most common female cancers worldwide, of which squamous cell carcinoma is the most common histological subtype. Strong evidence suggests that human papillomavirus (HPV) plays a central role, and types 16, 18, 31, and 33 are closely linked to the development of cervical cancer. With high attention paid to cervical cancer screening, its morbidity and mortality have decreased significantly in recent years. The incidence of Müllerian duct anomalies is estimated to be 5.5 – 6.7% in women [1]. Both hypoplasia and fusion disorders of Müllerian duct can cause uterine malformation. However, the coexistence of Müllerian duct anomalies and cervical cancer in patients is rare. The authors report the case of a woman diagnosed with squamous cell carcinoma in one cervix invading the cavity ipsilaterally in a uterus didelphys (Figure 1A).

Case Report

A 47-year-old woman, gravida 11, para 2, naturally menopausal for one year, was admitted with the complaint of intermittent abdominal pain on the right associated with the anus sank bilge feeling. The vaginal septum was found to deviate the right 'barrel' of the vagina, which was of normal size, and the left 'barrel', which was so small as to only admit one finger and too small to permit coitus. Gynecologic vaginal examination of the right side revealed a hypertrophied barrel-shaped cervix, and erosion was detected. Rectal examination result was basically normal, without invasion of the uterosacral ligaments or parametrium. Pelvic MRI examination showed uterus didelphys with double vagina with lesions measuring about 4.5 cm in diameter on the right side invading the cavity (Figures 1B, 1C). Abdominal ultrasound and pelvic MRI analyses did not detect any urinary tract anomalies. Tumor marker SCC was 5.8 (0–1.5) ng/ml. HPV16 tests were positive on the right side and negative on the other. Other tumor markers (CEA, CA125, CA153, and CA19-9) were within normal limits. The pathological reports made from performing endocervical canal curettage and endometrial biopsy obtained by using a Pipelle endometrial sampling cannula indicated invasive non-keratinizing squamous cell carcinomas. According to the pathological type and accessory examination, the preliminary diagnosis was squamous cell carcinomas of the uterine cervix invading the uterine cavity (FIGO classification IIA2). On January 17, 2015 the authors performed radical hysterectomy with bilateral salpingo-oophorectomy and bilateral pelvic lymphadenectomy. No apparent enlargement of pelvic lymph nodes was found

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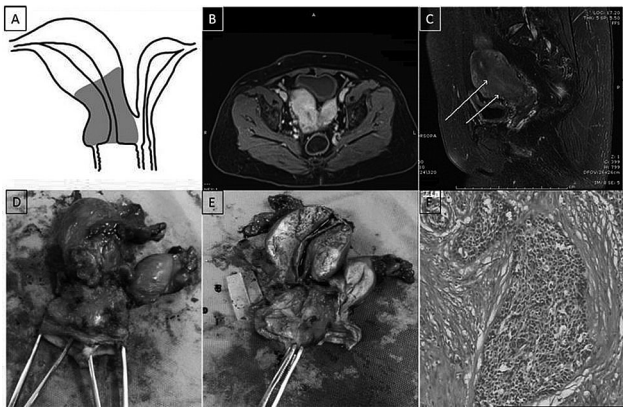

Figure 1A. — Localization of cancer tissue.
Figure 1B. — Pelvic MRI showing both uterine cavities.
Figure 1C. — Pelvic MRI showing a solid tumor scattering at the cervix and at the lower segment of the uterine, approximately 4.5 cm in diameter.
Figure 1D. — Gross appearance of the postoperative specimens showing a uterus didelphys; the right uterine is much larger than the left one.
Figure 1E. — Frontal section of the resected specimen showing two separate uterocervical cavities, which are connected by isthmic communication. Of note the enlarged right cervix with endophytic tumor, 4.0–4.5 cm in diameter, invading the lower uterine body, and the left smaller uterus with normal cavity and cervical appearance.
Figure 1F. — Microscopic views of the tumor showing non-keratinizing squamous cell carcinomas of the right cervix.

during the operation. Macroscopic analysis revealed a tumor, 4.0–4.5 cm in diameter, on the right side of the uterine cervix invading the lower uterine segment and the left smaller uterus, with normal cavity and cervical appearances (Figures 1D, 1E). Pathological examination showed non-cornification of squamous cell carcinomas on the right cervix (Figure 1F), which extended to the entire wall of the lower uterus; widely vascular tumor emboli and nerve invasion were detected. The smaller uterine and both vaginal walls were not affected. Retroperitoneal lymph nodes were negative for tumor spread. The patient then received paclitaxel and carboplatin chemotherapy, external beam radiotherapy, and intracavitary brachytherapy after surgery. No evidence of recurrence was found after primary therapy.

Discussion

The true prevalence of Müllerian duct anomalies is unknown. A systematic study abroad found that the incidence of uterine anomaly, which was caused by varying degrees of abnormal development and fusion of the Müllerian duct, was 5.5% in the general population, 8% in infertile women, 13.3% in women with history of abortion, and 24.5% in women with a history of recurrent abortion [2]. The majority of patients often remain asymptomatic and a large proportion of patients are not diagnosed until they are faced with the problem of infertility or complications with pregnancy and labor. The obstructive types may be detected at the onset of menarche because of periodic abdominal pain, which results from obstructed outflow of menstrual blood [3]. According to the morphological classification of the American Fertility Society [4], malformations arising from complete absence of fusion of the two Müllerian ducts are categorized as Class III-uterus didelphys. The patient in this study had nine spontaneous abortions, which were closely related to uterus didelphys. Early diagnosis of uterine malformation for the woman was not conducted until this admitted to the hospital due to serious lack of clinical checkup. Indeed, up to 50% of women with Müllerian duct anomalies also have renal agenesis [5]. The case the present authors report had no urinary tract anomalies. Only a few effective methods exist for this uterine malformation. For mediastinum uterus, resection is safe and is an effective uterine mediastinal treatment that obviously improves reproductive prognosis postoperatively.

Thus far, no evidence suggests a link between congenital malformation of Müllerian duct and the development of cervical cancer. Several articles reporting single cases have cited the review by Rastogi *et al.* [6]. Reports include uterine malformation associated with one or both sides of squamous cell carcinoma, adenocarcinoma, or clear cell carcinoma of the cervix [7-10]. Cervical cancer usually affects the vagina downwards, rarely involving the uterine cavity through the endocervical canal. The present case reported was that of a woman diagnosed with uterus didelphys and cervical cancer invading the cavity ipsilaterally. HPV16 tests were positive on the right cervix, and carcinoma developed in the cervix of the vagina used for coitus. This observation supports the role of transmissible coital factors and pathogenesis of HPV in the growth of cervical carcinoma. Conscientious gynecologic examination, ultrasonography, and MRI can check usual uterine malformation to reduce the rate of misdiagnosis of cervical lesions. Other examinations for uterine malformation include hysteroscopy, laparoscopy, and hystero-salpingography.

No definite treatment guidelines exist for cervical cancer in malformed uteri. Surgical treatment for the early-stage of this rare disease can be challenging because of anatomical anomaly. No literature describing the lymphatics or other anatomical structures of various Müllerian duct anomalies is currently available. Medical surgeons should pay more attention to anatomical variations when encountering cases of gynecological tumor combined with uterine malformation to prevent any intraoperative damage. Chemotherapy should focus more on the renal toxicity and effective dose for women with Müllerian duct anomalies often associated with renal agenesis. Performing radiation preoperatively is difficult because the presence of Müllerian duct anom-

alies could possibly complicate or prohibit the attainment of the preferred radiation dose distribution to target volumes. In the present authors' literature search, they only found two previously reported cases of FIGO Stage 2A squamous cell carcinoma of the cervix with congenital uterine anomalies treated with radiation preoperative [11,12]. The woman in the present case underwent radical hysterectomy with bilateral salpingo-oophorectomy and bilateral pelvic lymphadenectomy. Paclitaxel and carboplatin chemotherapy, external beam radiotherapy, and intracavitary brachytherapy were conducted as postoperative adjuvant therapies. No findings suggesting recurrence were observed during two years of follow-up.

Conclusion

The case report highlights a rare concomitance of cervical cancer associated with uterus didelphys in a patient, which deserves clinical attention. It can be successfully treated primarily by detection of such coexistences and optimization of available resources for customizing the best possible treatment plan for individual patients. However, the treatment can be challenging owing to the anatomical anomaly. Thus, further clinical follow-up and biological investigations are mandatory for a better understanding of this rare disease.

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