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Case Report

Minimal deviation adenocarcinoma of the uterine cervix: A case report

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ABSTRACT

Minimal deviation adenocarcinoma (MDA) of the uterine cervix is a rare disease. The rate of misdiagnosis is relatively high and there is no standard treatment. A 58-year-old woman presented with an abnormal Pap smear revealing atypical glandular cells and vaginal mucoid discharge. Cervical biopsy revealed cervicitis and an endometrium with atypical glands and increasing mitoses. A frozen section of curetted endometrial tissue revealed adenocarcinoma. Surgical staging with laparoscopic hysterectomy, bilateral salpingo-oophorectomy, and bilateral pelvic lymph node dissection was then performed. However, uterine cervical MDA was confirmed by pathology and immunohistochemistry with carcinoembryonic antigen and vimentin. Because the staging surgery was inadequate (the parametrium was not radically resected), postoperative adjuvant therapy with concurrent chemoradiation was performed. The patient remained disease-free as of the last follow-up 6 months postoperatively. MDA is difficult to diagnose and depends on its clinical manifestations and pathologic features. Surgery with adjuvant chemo-radiotherapy achieves good outcomes.

1. Introduction

Minimal deviation adenocarcinoma of the uterine cervix (MDA) is a rare variant of cervical cancer. Originally designated “malignant adenoma of the cervix” by Gusserrow, MDA accounts for 1–3% of all cervical cancers [1]. Because of its benign microscopic appearance, the term “minimal deviation adenocarcinoma” has been proposed for this tumor [2].

This case of MDA in a 58-year-old woman demonstrates the disease characteristics, diagnostic challenge, and therapeutic strategies that distinguish it from endometrioid adenocarcinoma.

2. Case report

A 58-year-old, multiparous woman (gravida 5, para 3, with 2 abortions) presented in 2009 with an abnormal Pap smear, which revealed atypical glandular cells. Previous Pap smears in 2003, 2007, and 2008 had yielded unremarkable results. She had menopause at the age of 48 years and had taken hormone therapy for 13 years. She often complained of itching of the vulva and mucoid vaginal discharge, but denied any postmenopausal bleeding. Colposcopy revealed an unsatisfactory transformation zone, small protruding lump in the endocervix. A cervical biopsy and endocervical curettage revealed chronic cervicitis.

A Pap smear in 2013 revealed atypical glandular cells, which favored a neoplasm. A colposcopy 1 month later revealed acetowhite epithelium over a large area of the cervix, involving the vaginal fornix and upper vagina. The level of the tumor marker squamous cell carcinoma antigen was 0.9 ng/mL (normal range <1.5 ng/mL. The human papillomavirus titer was 0.19. There were no vessel changes. Pelvic ultrasonography revealed an intrauterine 33 mm × 16 mm × 31 mm hypoechoic lesion with an echogenic ring. A cervical biopsy showed cervicitis. Diagnostic dilation and curettage (D&C) showed atypical glands with stratified nuclei and increased mitosis.

The patient received oral progesterone therapy for 1 month. However, there was no regression of the endometrial lesion and she was admitted for surgical intervention. A D&C was performed first

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and a frozen section of endometrial tissues revealed adenocarcinoma. Two months later, laparoscopic staging surgery was performed, including a hysterectomy, bilateral salpingo-oophorectomy, and bilateral pelvic lymph node dissection. Grossly, the cervix was thickened and hard, without other macroscopic findings (Fig. 1A). The microscopic examination revealed cervical mucilaginous glands that were irregular in size and shape with increased apophysis. The glands typically exhibited deep invasion of the cervical wall adjacent to the cervical adventitia (Fig. 1B). The cervical tumor was 1.0 cm × 1.0 cm × 0.6 cm with stromal invasion of 6 mm. No vascular invasion or lymphatic spreading was noted. Immunohistochemistry of the cervical tumor was positive for carcinoembryonic antigen (Fig. 1C) and vimentin (Fig. 1D). The pelvic lymph nodes showed no evidence of malignancy. Postoperative computer tomography revealed no lymphadenopathy.

The tumor was staged as Ib MDA of the cervix according to the International Federation of Gynecology and Obstetrics classification. Due to incidentally found cervical cancer with inadequate staging surgery, concurrent chemoradiotherapy was performed subsequently and finished two months postoperatively. The value of the tumor marker CA125 remained within the normal range (<35 IU/mL during follow-up. The patient was disease-free on the last follow-up, 6 months postoperatively.

3. Discussion

A review article reported that half of nearly 60 patients with MDA presented with vaginal bleeding and discharge [3]. Surgical resection was the mainstay of treatment.

MDA may originate from gastric metaplasia or Peutz–Jeghers syndrome [4]. Human papillomavirus rarely presents in MDA [5–7]. The symptoms and signs are not different from those of common cervical adenocarcinoma. In this case, the patient presented with mucoid vaginal discharge. Cytologic examination and punch biopsy failed to confirm a diagnosis of MDA and the confusing diagnosis of endometrial cancer led to staging surgery. The diagnosis of MDA was based on histopathology. Previous studies have demonstrated that cytologic examination of the cervix for MDA is insufficient. However, a biopsy of the cervix and cervical canal, and conization of the cervix can lead to a definite diagnosis of MDA [8]. Nevertheless, cervical biopsy and endocervical curettage failed to prove the correct diagnosis in this case. Pathological examination of tissue retrieved by D&C could only prove adenocarcinoma. Our experience shows the difficulties in this clinical scenario.

Magnetic resonance imaging and ultrasonography are inadequate for diagnosing MDA because of the benign appearance of the mass. Nonetheless, both imaging techniques play important roles in evaluating the dissemination of disease [9]. They may reveal intrauterine fluid accumulation and multiple, irregular cystic lesions that present as low-signals on T1-weighted imaging, and as high-signals on T2-weighted imaging [10].

MDA exhibits a diffusely infiltrative growth pattern and its histologic differentiation from normal cervical glands is challenging [11]. Histologically, MDA is characterized by a hazardous arrangement of endocervical glands and their deep penetration into the cervical wall, with minor cytological atypia. Immunohistochemistry can assist in the differential diagnosis of MDA. Carcinoembryonic antigen, Ki67, Alcian blue-periodic acid-Schiff staining, and p53 can be used for diagnosis of MDA [12]. Vimentin is also positive in tumor stroma and can be used for the diagnosis [12].

Currently, surgery remains the mainstay treatment for MDA. In previous reports, patients with early stage MDA treated with radical hysterectomy and pelvic lymph node dissection along with postoperative chemotherapy or radiotherapy showed no tumor recurrence [13–15]. However, postoperative adjuvant therapy may be required in the late stage of the disease. In the present case,

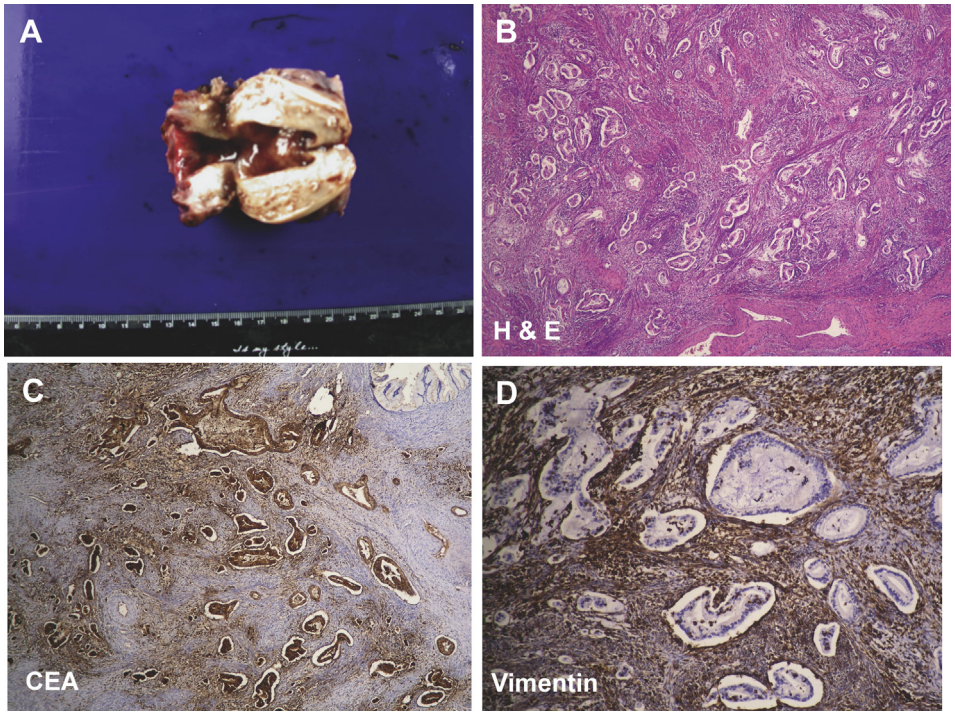

Fig. 1. Gross and histologic characteristics of minimal deviation adenocarcinoma of the cervix. (A) Gross picture of the uterus and cervix. (B) Mucinous glands exhibiting abnormal tubules. Papillary folding and irregular branching lined by mildly atypical cells. Distinct nuclear anaplasia and stromal invasion were also noted (100×; H&E, hematoxylin–eosin staining). Immunohistochemistry of the minimal deviation adenocarcinoma was positive for (C) carcinoembryonic antigen (CEA) and (D) vimentin (100× and 400×, respectively).

concurrent chemoradiation was performed because of inadequate staging surgery. However, because of small case numbers, the definite treatment and prognosis have not been determined. We will continue to follow-up this patient to ensure that the adjuvant chemoradiation was effective.

In conclusion, early diagnosis followed by appropriate evaluation and treatment of MDA is a challenge for gynecologists. Surgical management with radical hysterectomy might be the choice of treatment, but postoperative adjuvant therapy might be necessary, especially in the late stage of the disease. Clinical difficulties can be encountered, as in this case. Evaluation of more cases to establish clear diagnosis and treatment guidelines is imperative.

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