

Case Report

Huge Ovarian Tumor: An Unusual Presentation of Gastric-Type Endocervical Adenocarcinoma

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Keywords

Endocervical adenocarcinoma · Gastric-type endocervical adenocarcinoma · Ovarian tumor

Abstract

Gastric endocervical adenocarcinoma is a rare type of cervical cancer. It was recently classified as a subtype of cervical cancer that exhibits an aggressive behavior with poor prognosis compared to other cancer types. Nevertheless, little is known about the clinical behavior of this cervical cancer subtype to establish a definitive treatment protocol. Herein, we report a case of poorly advanced gastric endocervical adenocarcinoma in a 47-year-old Korean woman who was suspected to have a borderline ovarian tumor and underwent a laparotomy. A gastric-type endocervical adenocarcinoma was diagnosed incidentally on histopathological examination.

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Introduction

Cervical cancer is the fourth most common cancer in women that is caused predominantly by human papilloma virus (HPV) persistent infection, whereas the occurrence of HPV-unrelated cervical cancer is rare [1]. Gastric-type endocervical adenocarcinoma (GAS) is an unusual cervical cancer with an HPV-unrelated etiology that involves the endocervix. Information about GAS is limited because it was previously classified under the spectrum of endocervical mucinous carcinoma.

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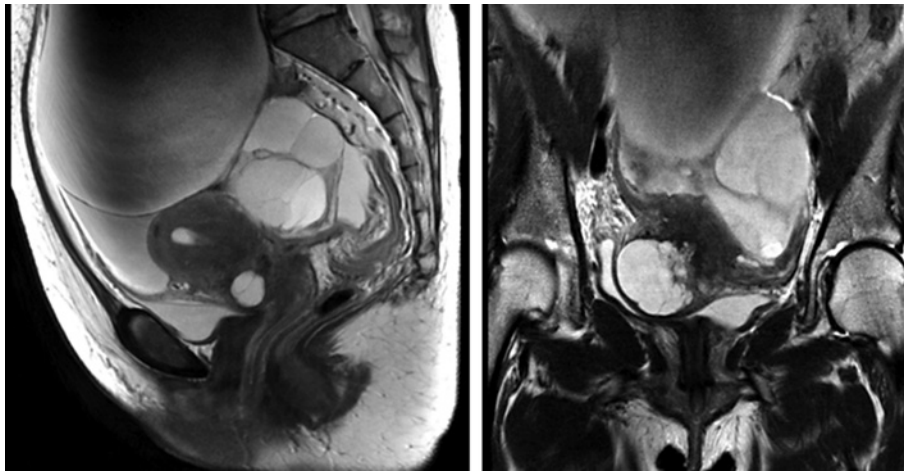


Fig. 1. MRI of the cervix demonstrating the ovarian mass without definite cervical mass.

As GAS involves the endocervix, it may not be detected during screening or biopsy. However, it can be diagnosed at an advanced stage compared to other cervical cancer types, and in some cases, it is diagnosed because of metastasis to other organs. GAS presenting with abdominal distention (due to a huge ovarian tumor) as the first symptom is rare because ovarian metastasis typically does not occur at the time of diagnosis of cervical cancer. Herein, we report the case of a patient who underwent surgery for suspected borderline ovarian tumor that was later confirmed as GAS on histopathological evaluation.

Case Report/Case Presentation

A 47-year-old Korean woman visited a local clinic because of abdominal distension, which aggravated 2 weeks prior. A huge pelvic mass was detected on sonography, and the patient was referred to our hospital for further evaluation and treatment. Abdominal ultrasound revealed a multiloculated cyst with complete septa. Transvaginal ultrasonography revealed a huge abdominopelvic mass adherent to the isthmus level of the uterine surface. Computed tomography (CT) revealed a 25 × 11 × 20-cm multiloculate, septate, cystic mass with an irregular wall at the left adnexa, which was suspected to be mucinous carcinoma with peritoneal seeding metastasis, and a 5.8-cm cystic mass with septations at the right adnexa, suspected to be borderline ovarian malignancy. There was no lung metastasis, enlarged lymph nodes, focal round sclerosis in the body of T10, or ascites collection. Pelvic magnetic resonance imaging findings corresponded to the CT findings (shown in Fig. 1). PET CT showed no fluorodeoxyglucose uptake, which was suggestive of distant metastasis. Preoperative tumor markers were positive, and the values of cancer antigen ca125, CEA, and CA19-9 were 500.0, 2.8 ng/mL, and 94.4 U/mL, respectively. The cervix was visibly normal as observed by using a speculum.

After 1 week, she underwent subtotal hysterectomy, salpingo-oophorectomy, omentectomy, appendectomy, cholecystectomy, and washing cytology (shown in Fig. 2). Total hysterectomy could not be performed because the parametrium was fibrotic and severely adherent to the bladder, rectum, pelvic cavity, and bowel. Intraoperative frozen section analysis of the right adnexa suggested uterine metastatic adenocarcinoma.

The microscopic picture of the uterine endocervical adenocarcinoma, which was consistent with HPV-independent GAS, involved the parametrium, uterine serosa, and both the distal and circumferential resection margins (shown in Fig. 3). Pathological examination of the

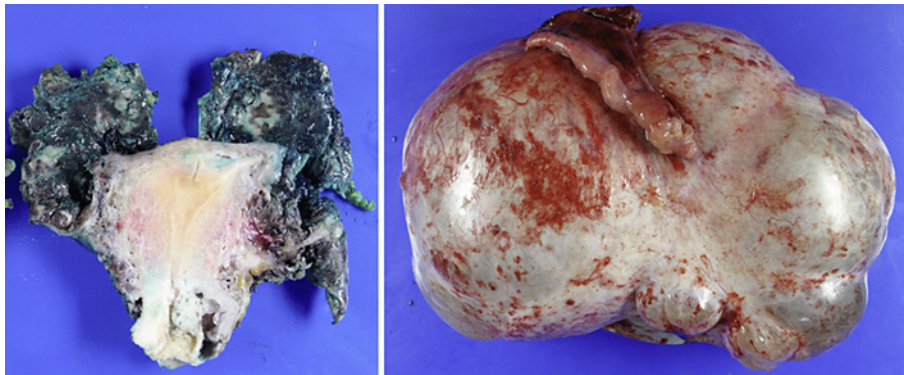


Fig. 2. Surgical specimen.

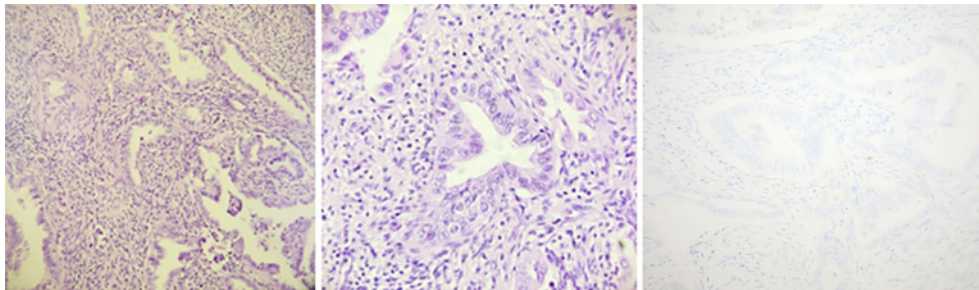


Fig. 3. GAS (left $\times 40$, right $\times 200$).

adnexa, omentum, peritoneum, and internal iliac mass revealed metastatic adenocarcinoma originating from the uterus. Immunohistological staining was positive for PAX8, CK7, CK20 (focally strong), CAIX (strong), CEA (patchy), MUC6 (strong), HNF1b, UBC, RNA, KOC (focal), and P53 (wild type). Tumor cells were negative for p16, PAX2, ER, low-risk 5-HPV, high-risk 18-HPV, and CDX2. The proliferative index (Ki-67) was 20%.

After the surgery, the patient did not experience outgassing and could not start eating. On postoperative day 5, abdominal CT tomography revealed severe ileus due to mucus in the left upper abdomen. With conservative treatment for the ileus, the patient received two cycles of paclitaxel and carboplatin chemotherapy, but the therapy was suspended as she was unable to tolerate further treatment. On postoperative day 65, the patient died of aspiration pneumonia.

Discussion/Conclusion

GAS is an unusual and aggressive tumor with distinct morphological features. It has been associated with HPV-independent etiology. The WHO classification of female genital tumors classifies GAS as a variant of endocervical adenocarcinoma [2]. In contrast to the endocervical adenocarcinoma of the usual types, GAS is primarily characterized by an HPV-independent etiology and exhibits pyloric gland-type mucin production as well as demonstrates an unfavorable clinical behavior.

The histopathological diagnosis of GAS relies primarily on the morphological identification of voluminous clear and/or pale eosinophilic cytoplasm and distinct cytoplasmic borders of the neoplastic cells [3]. Nuclear features include nuclear enlargement, hyperchromasia, and

loss of polarity [3]. Ancillary studies, including immunohistochemistry for p16 and molecular methods, are used for confirming the absence of HPV infection [4].

Several studies have demonstrated that GAS has distinct immunohistochemical staining characteristics compared to other mucinous adenocarcinomas [5–7]. Positive immunohistochemistry staining for CAIX and HNF1b is closely associated with this tumor type, and positive staining of mucin with MUC6 supports mucinous differentiation. The gastric phenotype can be recognized by immunohistochemical staining for HIK1083 and/or MUC6 positivity, which react with gastric mucin [8]. Positive CEA staining helps to differentiate GAS from clear cell carcinoma [9]. In 2019, a multi-institutional study identified predictors of poor outcomes in patients with GAS, including tumor diameter >40 mm, parametrial invasion, lymph node metastasis, poorly differentiated disease, and ovarian metastasis [6].

The absence of an obvious cervical mass is not entirely uncommon in GAS, owing to its highly infiltrative growth pattern and its usual location in the upper cervix. GAS is often diagnosed at an advanced stage, and the metastatic sites are the brain, liver, and omentum, which are different from normal endocervical adenocarcinoma [10]. Saglam et al. [11] reported a case of ovarian metastasis 2 years later in the microscopic foci of endocervical adenocarcinoma in situ, discovered after hysterectomy due to persistent uterine bleeding. In our case, no mass was found in the cervix on gross findings or imaging studies before surgery, and it appeared as the sole lesion of the ovarian tumor that appeared as a borderline malignancy. Therefore, we recommend to consider the possibility of metastasis in GAS if a mucinous cyst is suspected in the presence of huge ovarian tumor.

Because GAS is rare, there is a paucity of literature to guide the treatment of this disease. In 2018, Kojima et al. [8] performed a study that found GAS to be less chemosensitive than uterine endocervical carcinoma when treated with docetaxel and carboplatin. They suggested that the next step in developing an effective chemotherapy regimen for this cancer type would be to focus on the development of specific molecular-targeted therapies.

Statement of Ethics

Written informed consent was obtained from the patient's next of kin for publication of this report and any accompanying images. The retrospective review of patient data did not require ethical approval in accordance with local/national guidelines.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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Author Contributions

Minjeong Park reviewed the literature, wrote the main body of the manuscript and discussion, and prepared images and references. Eunhyun Lee conceived and designed the study.

Data Availability Statement

All data that support the findings of this study are included in this article. Further inquiries can be directed to the corresponding author.

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