

Gastric Perforation due to Cervical Cancer Metastasis

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ABSTRACT

Background: Squamous cell carcinoma (SqCC) is the most prevalent subtype of carcinoma of the uterine cervix. It is well-known for its local infiltration and a high frequency of lymphonodal invasion, but distant hematogenous metastases are uncommon.

Case Report: This case report highlights the rare occurrence of gastric perforation resulting from metastatic uterine cervical SqCC. A 56-year-old woman, initially treated for cervical cancer, presented with severe abdominal pain and vomiting. Emergency laparotomy revealed a prepyloric stomach perforation. Subsequent subtotal gastrectomy confirmed high-grade malignancy with atypical cells infiltrating the stomach. The literature on gastric metastasis from cervical cancer is limited, making this case noteworthy. Surgical intervention and postoperative therapy were recommended, although the patient's deteriorating health delayed the planned treatment.

Conclusion: While only three similar cases have been reported, emphasizing the need for early radical treatment and postoperative care, this case underlines the complexity and lack of standardized protocols in managing such rare metastatic scenarios.

Keywords: Squamous cell carcinoma, metastasis, peptic ulcer, surgical intervention, cervix neoplasms.



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INTRODUCTION

Squamous cell carcinoma (SqCC) is the most prevalent pathological subtype of cervical carcinoma and the third most common gynecologic cancer. It is one of the main causes of cancer mortality in women globally. Annually, an estimated 500,000 women worldwide are diagnosed with this type of cancer, with nearly half of the cases occurring before the age of 35.¹ The International Federation of Gynecology and Obstetrics (FIGO) states that cervical cancer remains the only gynecological cancer that is clinically staged.² Qin et al.,³ in a study conducted in 2009, concluded that significant discrepancies exist between the clinical stage and pathological results of operable cervical carcinomas ranging from grade IB to IIB. They recommended the use of certain radiological examinations, such as magnetic resonance imaging (MRI), computed tomography (CT), and

positron emission tomography (PET), for more accurate staging of cervical cancer. SqCC is well-known for its local infiltration and a high frequency of lymphonodal invasion. However, distant hematogenous metastases are uncommon and typically affect the lungs and bones.⁴ It is extremely rare for solid tumors to metastasize to the stomach, particularly from the cervix. Less than 2% of cervical cancer patients develop gastric lesions, which are typically asymptomatic.^{5,6}

CASE REPORT

We present the case of a 56-year-old woman. Her initial procedure, a complete hysterectomy with bilateral adnexectomy and pathohistological evaluation, revealed squamous cell carcinoma grade I/II of the cervix (Fig. 1a). Following surgery, the patient underwent chemotherapy and radiotherapy, with a favorable prognosis. Regular follow-up examinations showed no local recurrence of carcinoma or distant metastasis.

Three years after the initial diagnosis, during a regular oncological follow-up, multi-slice computed tomography (MSCT) of the abdomen revealed a 1.2 cm long nodule in the fat tissue surrounding the stomach's lesser curvature and a few enlarged lymph nodes (approximately 2.6 x 1.2 centimeters) near the head of the pancreas. The patient was immediately referred to a gastroenterologist after the discovery of the suspicious lesion near the stomach. An esophagogastroduodenoscopy was performed to rule out any intraluminal changes in the stomach and duodenum. Gastroscopy revealed mucosal nodularity with multiple hemorrhagic spots, suggesting an exacerbation of chronic gastritis. A positron emission tomography/computed tomography (PET/CT) scan was also recommended to evaluate the metabolic activity of the enlarged nodules. The scan showed high metabolic intensity in the ventral wall of the stomach, likely coexisting with the enlarged intraperitoneal lymph nodes previously described in the MSCT scan. The oncology council decided to monitor these lesions and conduct a follow-up MSCT scan in three months.

The patient was admitted to the emergency room two months later, complaining of severe abdominal pain that persisted for two days. The pain was localized in the upper abdominal quadrants, and the patient characterized it as unbearable. She also experienced vomiting after a meal earlier that day. The physical examination revealed rebound tenderness and severe pain upon palpation, suggesting a potential acute abdomen. She was normotensive (103/60 mmHg) with a regular heart rate and rhythm (81). An abdominal X-ray revealed subdiaphragmatic free gas, which, in correlation with the previous diagnosis from the gastroenterologist, suggested a possible perforated peptic ulcer. Emergency

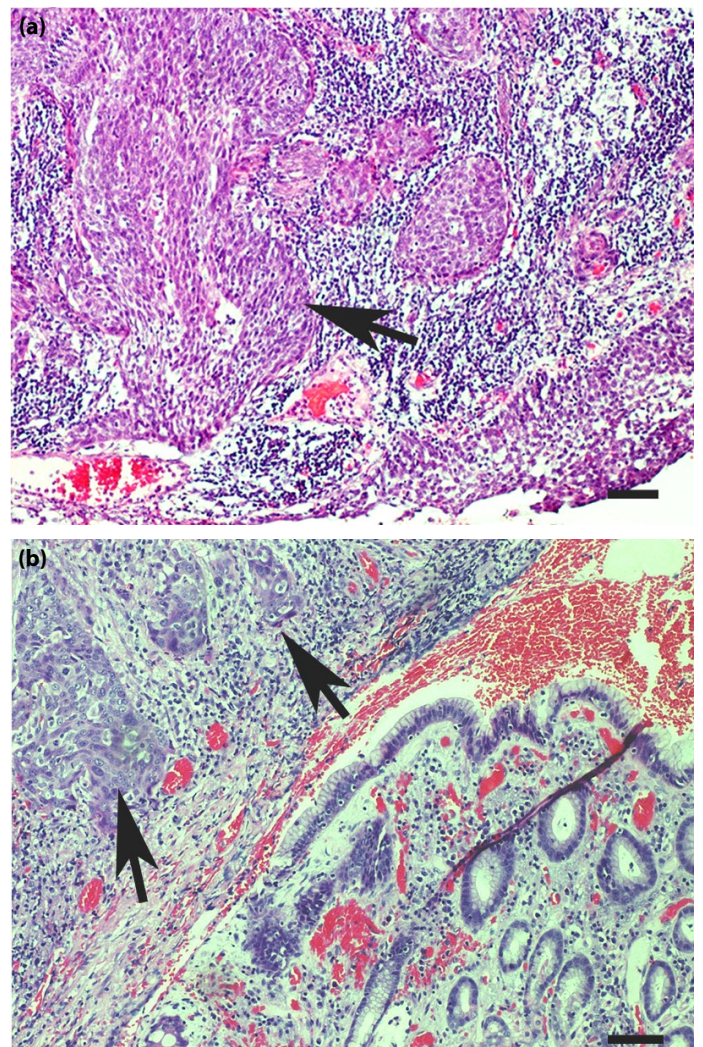


Figure 1. (a) Squamous carcinoma of the uterine cervix, the first sample in 2013; H&E 200X. **(b)** Stomach metastasis in 2016. H&E 200X.

laparotomy was performed, during which a prepyloric perforation of the stomach was identified, and tissue samples were obtained before repair. The postoperative period was unremarkable, and the patient was discharged on the fifth postoperative day. Pathohistological evaluation revealed atypical epithelial cells infiltrating the desmoplastic stroma, with only a few signet-ring cells described. This case was once again presented to the oncology consilium, and radical surgical treatment was recommended.

Subsequently, a subtotal gastrectomy was performed. A resected part of the stomach measuring 11 by 5.5 centimeters, infiltrated with a tumorous mass, was sent for pathohistological analysis. This revealed atypical, poorly differentiated epithelial cells surrounded by abundant desmoplastic stroma and

predominantly hyperchromatic, but occasionally also vesicular nuclei with prominent nucleoli. There were numerous necrotic lesions throughout the tumorous masses, where clusters of tumor cells formed palisades. Additionally, without breaching the subserous membrane, the tumor invaded the majority of the layers of the stomach wall (mucosa, submucosa, and muscularis propria). In order to rule out stomach signet-ring cell adenocarcinoma, the tissue was also examined using Periodic Acid-Schiff (PAS)-Alcian Blue staining, and the cells were negative. Surgical margins were clear. All these findings indicated a gastric metastasis of uterine cervical squamous cell carcinoma with high-grade malignancy (Fig. 1b).

The patient's deteriorating general health condition necessitated postponing the planned adjuvant post-surgery therapy.

DISCUSSION

Literature regarding gastric metastasis is extremely limited, with the most frequent primary cancers being squamous cell carcinoma of the esophagus, lung adenocarcinoma, and melanomas. Most patients with primary cervical cancer and simultaneous stomach metastasis also had other organs affected.⁷ Since stomach squamous cell carcinoma is relatively uncommon (accounting for less than 0.05% of all gastric cancers), it is typically identified as a metastasis from another primary site when detected in stomach tissue through pathohistological analysis.⁸ A gastric lesion in a patient with a history of cervical cancer is usually considered a primary tumor. However, as our case illustrates, metastasis is possible and therefore must be considered.

There are three reported cases of sole metastasis to the stomach and five cases of multimetastatic cervical SqCC. In one case of single gastric metastasis from primary cervical SqCC described by Moldovan et al.,⁵ the patient underwent subtotal gastrectomy along with D2 lymphadenectomy. After the initial surgery, the patient received adjuvant post-surgery therapy, which included radiotherapy to the stomach region and six cycles of Paclitaxel and Carboplatin. Nine months after surgery, the patient was alive and in complete remission. However, the majority of patients with this diagnosis are in poor general health and may not be suitable for post-surgery adjuvant therapy.⁹ In both of the remaining case reports on this subject, the patients were not fit for planned surgical treatment and succumbed within a few days and two months, respectively.^{9,10} Due to their rarity, these conditions lack a standardized protocol for the type of surgery and post-operative chemotherapy or radiotherapy treatment, as well as an estimated life expectancy. Defining such a treatment protocol could benefit these patients by increasing their survival rate.

CONCLUSION

With this report, we aim to highlight an unusual progression of cervical SqCC with gastric perforation as a complication of metastatic disease. Considering that there have been only three previous case reports of this diagnosis, we advocate for early radical treatment of gastric metastasis combined with suitable post-operative oncological care, which may result in prolonged survival and a higher quality of life. We believe that this report will be beneficial to clinicians and that further, comparable cases will corroborate our findings.

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Informed Consent: Written informed consent was obtained from patients who participated in this study.

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