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## Case report

# Isolated jejunal metastasis in a patient with cervical cancer: A case report

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## ABSTRACT

**Background:** In approximately 8% of cervical carcinoma patients, gastrointestinal tract is involved, most commonly the rectosigmoid portion, because of local extension. Isolated metastases to small bowel are exceedingly rare.

**Case report:** We present a case of a 63-year-old woman with cervical cancer who developed isolated jejunal metastasis 8 months after postoperative chemoradiotherapy. The patient was alive with no evidence of disease 6 months after resection of metastasis. Very few cases have been reported concerning squamous cell carcinoma of the cervix with documented metastases to the small bowel. There is only one published case report of cervical cancer with multiple metastases to the small intestine and jejunum. To our knowledge, this is the first case of cervical cancer with isolated jejunal metastasis, which was initially demonstrated with positron emission tomography and confirmed histopathologically.

**Conclusion:** Although the exact mechanism underlying the isolated metastasis is unknown, hematogenous spread or tumor seeding during surgery may play a role.

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## 1. Introduction

Squamous cell carcinoma (SCC) of the uterine cervix is the second most common gynecological cancer and most commonly metastasizes in a stepwise fashion to adjacent tissues and lymphatics. This disease usually metastasizes to the pelvic and para-aortic lymph nodes before spreading to distant organs. Reported sites of distant metastasis include the lung,

bone, liver, and mediastinal and supraclavicular lymph nodes. In approximately 8% of patients with cervical carcinoma, the GI tract is involved, most commonly the rectosigmoid portion, because of local extension.<sup>1</sup> Isolated metastases to the small bowel are exceedingly rare. In previous reports, metastasis of cervical cancer to the duodenum and spleen has been reported.<sup>2–4</sup>

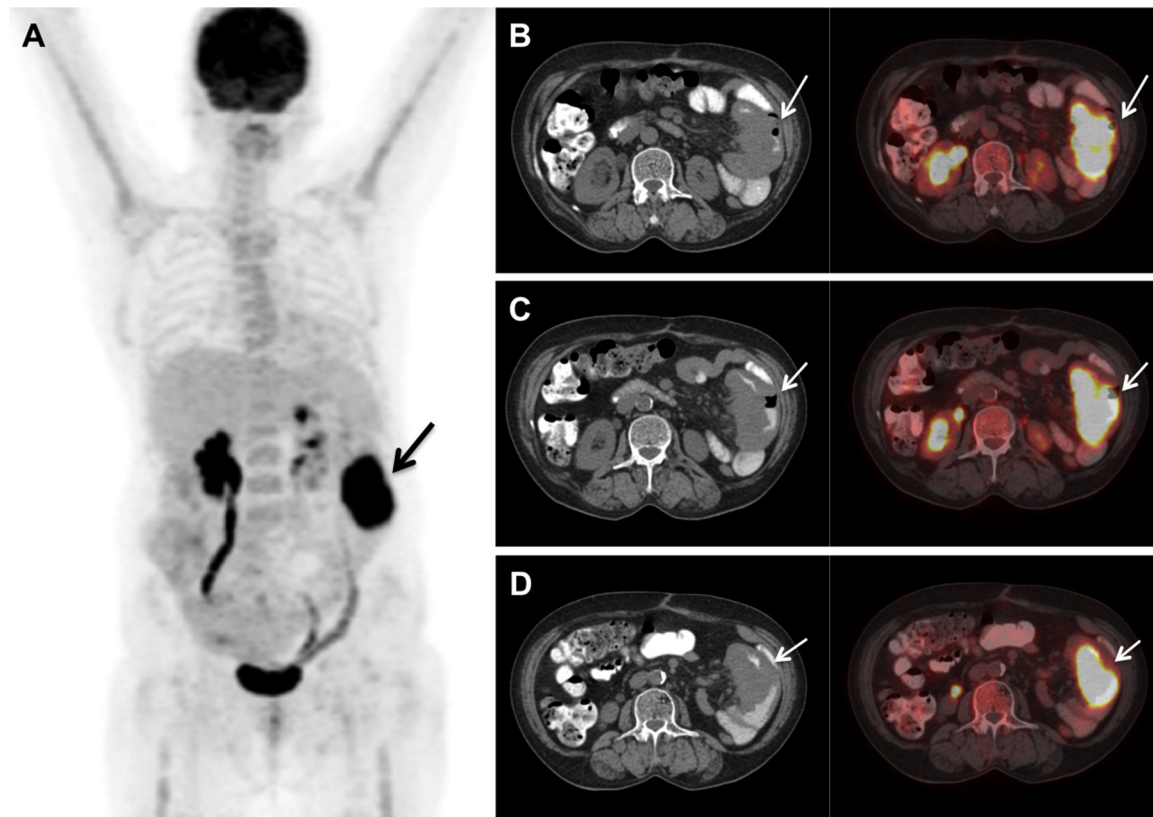
We herein report the first case of isolated jejunal metastases from early-stage cervical cancer, which was confirmed

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**Fig. 1 – Positron emission tomography (PET) images taken before intestinal resection. (A) Maximum intensity projection; (B–D) Transaxial computed tomography (CT) and merged CT and PET images taken at different sequences. Images show 84 × 39-mm hypermetabolic, hypodense intestinal wall thickening (maximum standardized uptake value: 19.7) without any other distant metastasis (arrows).**

by both [18F]-fluorodeoxyglucose (FDG) positron emission tomography (PET) and histopathological diagnosis presenting with obstruction symptoms.

## 2. Case report

A 63-year-old woman was admitted to the hospital with a complaint of post-menopausal bleeding. Her medical history included hypertension for 10 years and coronary stent placement 3 years previously. A 5-cm cervical mass without parametrial infiltration was observed on the initial gynecological examination. No metastasis was observed on pre-operative radiological images. The biopsy revealed SCC, and the patient underwent total abdominal hysterectomy with pelvic para-aortic lymph node dissection. The final histopathological diagnosis was SCC of the cervix with 34 non-metastatic lymph nodes. The vaginal cuff surgical clear margin was 2 mm. Three weeks after surgery, the patient was treated using pelvic radiotherapy (RT) with a total dose of 50 Gy in 25 fractions. The patient was admitted to our hospital for vaginal cuff brachytherapy (BRT). Brachytherapy was performed with a remote afterloading high-dose rate unit using a radioactive iridium-192 source (Varisource®, Varian Medical Systems, Palo Alto, CA, USA). The planned dose per fraction was 5 Gy in three consecutive days. At the routine

6-month control, the patient complained of fatigue, loss of appetite, and nausea. Her hemoglobin level was 6.1 g/dL, and her liver and kidney function tests were normal. Her CA 125 level was 7.8 U/mL, which was within normal limits. Gynecological examination revealed no recurrence. On computed tomography (CT), intestinal thickening was observed at the jejunum. Ultrasound-guided biopsy revealed SCC metastasis of the intestine. FDG-PET-CT demonstrated 84 × 39-mm intestinal wall thickening (maximum standardized uptake value: 19.7) without any other distant metastasis (Fig. 1). Surgical resection of the mass located at 40 cm distal to the Treitz ligament and lymph node dissection was performed (Fig. 2). On histopathological examination, the resected jejunal segment showed the presence of small bowel mucosa admixed with cohesive sheaths of neoplastic cells highly reminiscent of malignant nonkeratinizing SCC (Fig. 3). The patient was alive with no evidence of disease 30 months after resection of the metastasis.

## 3. Discussion

SCC of the cervix is the second most common gynecologic malignancy,<sup>5</sup> accounting for 80–85% of all cases, with 15–20% being adenocarcinomas.<sup>6</sup> Several clinical and pathologic risk factors that are predictive of treatment outcome have been identified. Among these, stage is the most important

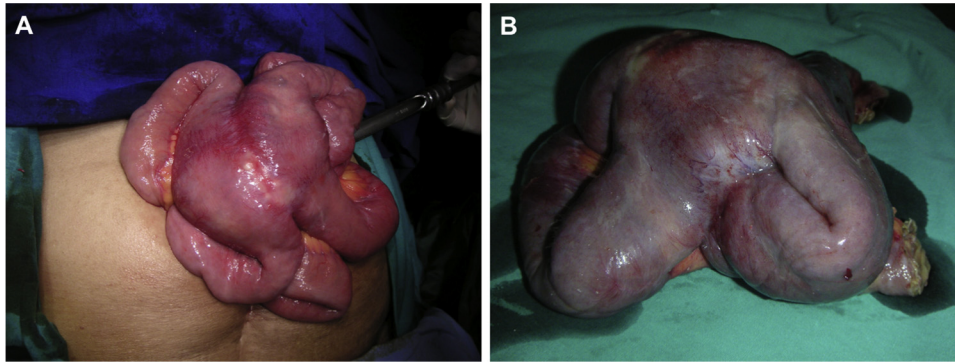


Fig. 2 – (A) Intestinal wall thickening mimicking an abdominal mass. (B) Resected jejunal segment.

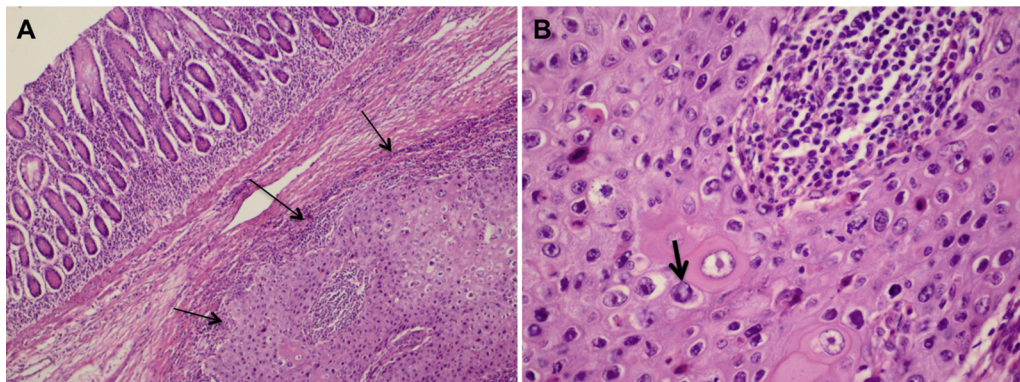


Fig. 3 – (A) Histopathological appearance of the jejunum [hematoxylin and eosin (H&E); 200 $\times$ ] demonstrated the presence of small bowel mucosa admixed with cohesive sheaths of neoplastic cells highly reminiscent of malignant nonkeratinizing squamous cell carcinoma (thin arrows). (B) Histopathological appearance of the tumor cell (H&E) presenting mitosis (arrow; 400 $\times$ ).

prognostic factor, and patients are treated according to stage. The treatment of choice for locally advanced cervical cancer is definitive chemoradiotherapy (CRT), resulting in a 5-year overall survival of 70% and a 5-year local failure rate of 20–30%.<sup>5,7,8</sup> The incidence of distant metastasis is 12–15%, depending on the study, and treatment strategies include systemic chemotherapy (ChT) and palliative radiotherapy (RT) in certain cases.<sup>7</sup>

Carcinoma of the cervix usually spreads in an orderly and predictable fashion. The disease spreads by a hematogenous route starting from the pelvic and para-aortic routes and then to the viscera. Common sites of distant metastasis are the liver, lungs, and bone marrow. In approximately 8% of patients with cervical carcinoma, the GI tract is involved, most commonly the rectosigmoid portion, because of local extension.<sup>1</sup> However, isolated metastases to the small bowel are exceedingly rare. Such spread is believed to occur commonly through the lymphatics, usually the para-aortic or mesenteric nodes to the bowel's serosa and less often via the blood stream or by peritoneal seeding.<sup>3,4</sup> Only seven cases have been reported for SCC of the cervix with documented metastases to the small bowel,<sup>3</sup> and there is only one published case report of a cervical cancer metastasizing to the jejunum.<sup>9</sup> Misonou et al.<sup>9</sup> reported a case with stage IA cervical cancer recurring 13 years after hysterectomy with multiple metastases to the jejunum, which caused small intestinal perforation. Our case

differs from that previous case by having an earlier relapse. Our patient had negative lymph nodes and no intraperitoneal disease. Therefore, it may be postulated that malignant cells could have been dislodged at the time of cervical manipulation and biopsy, and then passed through the fallopian tubes. Metastatic growth may then have been facilitated by local immunosuppression and growth factor secretion. An alternative mechanism could have involved direct implantation following contamination of instruments with tumor cells.<sup>10</sup>

Because the symptoms of intestinal metastasis may mimic intestinal obstruction or bleeding, it is difficult to make an appropriate diagnosis of metastasis. A delay in diagnosis may impair the prognosis of disease. More recently, FDG-PET, with high sensitivity and specificity for detecting lymph node and distant metastases, has proven useful for determining the extent of disease in patients with cervical cancer.<sup>8</sup> The type of assessment method makes the present case distinct from those reported by others. We performed PET-CT to rule out malignancy, as well as systemic metastasis if a tumor was present.

#### 4. Conclusions

Intestinal metastasis from SCC of the cervix is an extremely uncommon malignant cause of upper gastrointestinal

obstruction. However, accurate recognition of such unusual patterns of metastases in cervical cancer by histopathology is vital for best practice therapeutic decisions in these patients.

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### Conflicts of interest

The authors declare no conflict of interest.

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### Financial disclosure

The authors declare no financial disclosure.

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