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CASE REPORT

Distal Pancreatectomy for Isolated Metastasis of Endometrial Carcinoma to the Pancreas

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ABSTRACT

Context The majority of oncological pancreatic resections involve resection of primary pancreatic tumors. Pancreatic resection for metastatic disease is rare but can produce durable palliation or even cure in carefully selected patients. Herein, we report what to our knowledge is the first description of pancreatic resection of metastatic endometrial carcinoma.

Case report We evaluated a patient who developed a mass in the distal pancreas as identified by screening computed tomography nearly three years after radical abdominal hysterectomy, bilateral salpingo-oophorectomy, and bilateral pelvic and para-aortic lymph node dissection for an International Federation of Gynecology and Obstetrics stage IIIA, grade 2 endometrial cancer. Findings on cytopathologic examination of tissue obtained by fine needle aspiration of the lesion were consistent with metastatic endometrial carcinoma. Radiographic imaging and physical examination failed to identify additional sites of disease. After receiving counseling as to the risks and projected benefits of surgical resection, the patient underwent a distal pancreatectomy, splenectomy, and partial gastrectomy with en bloc excision of the tumor. On final pathologic examination, all margins were free of tumor. At the time of this report, the patient remains without evidence of disease.

Conclusion Metastasis to the pancreas from endometrial cancer is uncommon; however, this possibility should be considered in patients with a new pancreatic lesion and a history of endometrial cancer as pancreatic resection of metastatic disease can benefit selected patients.

INTRODUCTION

Although metastasis to the pancreas is a rare finding in clinical practice, the incidence of this finding in autopsy series ranges from 1.5 to 10%. In a study of 2,587 consecutive autopsies performed between 1973 and 1978 at Memorial Hospital in New York, metastatic cancer in the pancreas was found in 261 individuals (10.1%) [1]. The most common primary tumors to metastasize to the pancreas in this series were breast tumors (n=51), lung tumors (n=49), and melanoma (n=23). In a Japanese series of 1,740 autopsies performed between 1985 and 1994, 103 cases (5.9%) of metastasis to the pancreas were identified [2]. Finally, in a series from the United States of 4,955 autopsies performed between 1977 and 1997, metastasis to the pancreas was identified in 81 cases (1.6%) [3]. The most common primary tumors to metastasize to the pancreas in this series were lung tumors, tumors of the gastrointestinal tract, and kidney tumors.

In clinical practice, when metastasis to the pancreas is identified, resection is rare because most patients have many other sites

of metastatic disease, a scenario in which the morbidity of resection would outweigh the projected benefits. Consequently, the majority of studies reporting resection of pancreatic metastases are quite small. The most common types of cancer resected in surgical series, in order from most to least common, are renal cell carcinoma, lung cancer, breast cancer, colon cancer, sarcoma, and melanoma [4, 5, 6, 7]. Favorable outcomes, including palliation of symptoms and long-term survival, have been achieved in selected patients, most notably those with renal cell carcinoma.

Endometrial cancer rarely metastasizes to the pancreas. In the previously mentioned autopsy series from Memorial Hospital, none of the 261 cases of metastases to the pancreas involved an endometrial primary tumor (12 cases of primary uterine cervical cancer were reported, but no true endometrial primary tumors) [1]. Likewise, the other two previously mentioned autopsy series did not include any cases of endometrial primary tumors [2, 3]. Endometrial cancer metastatic to the pancreas has been reported in just two surgical series, and in each series, just one patient had this finding, and the patient did not undergo resection [7, 8]. Thus, to our knowledge, there have been no previous reports of resection of endometrial cancer metastatic to the pancreas. In this report, we present a patient with an isolated metastasis to the pancreas from an endometrial primary tumor who underwent distal pancreatectomy for palliation of symptoms and potential cure.

Figure 1. CT image of pancreatic tail mass (circled).

CASE REPORT

A postmenopausal 56-year-old woman presented to an outside institution in early 2004 with vaginal bleeding. An endometrial biopsy performed at that time demonstrated well-differentiated adenocarcinoma, papillary type. CA-125 levels were within the normal range. A CT scan of the abdomen and pelvis identified no evidence of metastatic disease or retroperitoneal lymphadenopathy. The patient was referred to our Department of Gynecologic Oncology for further care.

The patient was further evaluated with chest radiography and MRI to determine whether the primary tumor site was cervical or uterine. Findings on further imaging were negative for distant disease. In August 2004, the patient underwent radical abdominal hysterectomy, bilateral salpingo-oophorectomy, and bilateral pelvic and para-aortic lymph node dissection. Complete surgical staging demonstrated an International Federation of Gynecology and Obstetrics stage IIIA, grade 2 cancer (tumor cells were detected in peritoneal washings). All lymph nodes were negative.

Because of extension of the tumor to the lower uterine segment, the patient underwent adjuvant radiation therapy. She received 30 Gy (5 fractions of 600 cGy) of brachytherapy to the vaginal cuff. She completed adjuvant radiation therapy in September 2004. From September 2004 to February 2007, the patient had routine periodic surveillance with chest radiography and Pap smears and remained without evidence of disease.

At a routine follow-up visit in February 2007, the patient described a 2- to 3-month history of vague abdominal discomfort. In early March 2007, a CT scan of the abdomen and pelvis was obtained. The CT scan demonstrated an approximately 3x3 cm mass in the tail of the pancreas (Figure 1). Infiltration of the surrounding peripancreatic fat and altered perfusion of the spleen were noted. The radiographic differential diagnosis was primary pancreatic malignancy or metastatic disease. No other evidence of disease was appreciated. A subsequent CT scan of the chest was negative for evidence of

metastatic disease. Findings on cytopathologic examination of tissue obtained by FNA performed in late March 2007 were consistent with metastatic adenocarcinoma from an endometrial primary tumor.

The patient was then referred to the Department of Surgical Oncology. She was evaluated in mid-April 2007, at which time she essentially felt well. Given that the patient had no other evidence of metastatic disease on radiographic imaging and physical examination and given that, on the basis of the preoperative imaging studies, resection of the metastasis with negative margins was anticipated, we offered the patient surgical resection. At the end of April 2007, after giving informed consent, the patient underwent an uneventful distal pancreatectomy, splenectomy, and partial gastrectomy with en bloc removal of the tumor. The final pathologic examination demonstrated a 4.5x4.2 x4.0 cm metastatic adenocarcinoma consistent with an endometrial primary tumor (Figure 2). All margins were free of tumor.

The patient had an uneventful postoperative course and was discharged to home on postoperative day 8. The patient has been seen in our clinic since discharge and is doing well. At our institution's multidisciplinary treatment conference, a number of postoperative treatment options were discussed, including close surveillance, use of leuprolide acetate, and initiation of chemotherapy with paclitaxel and carboplatin. After discussion of the risks and projected benefits of each option, the patient elected to begin leuprolide acetate therapy in mid-May 2007. A surveillance CT scan in September 2007 revealed no evidence of recurrent or metastatic disease.

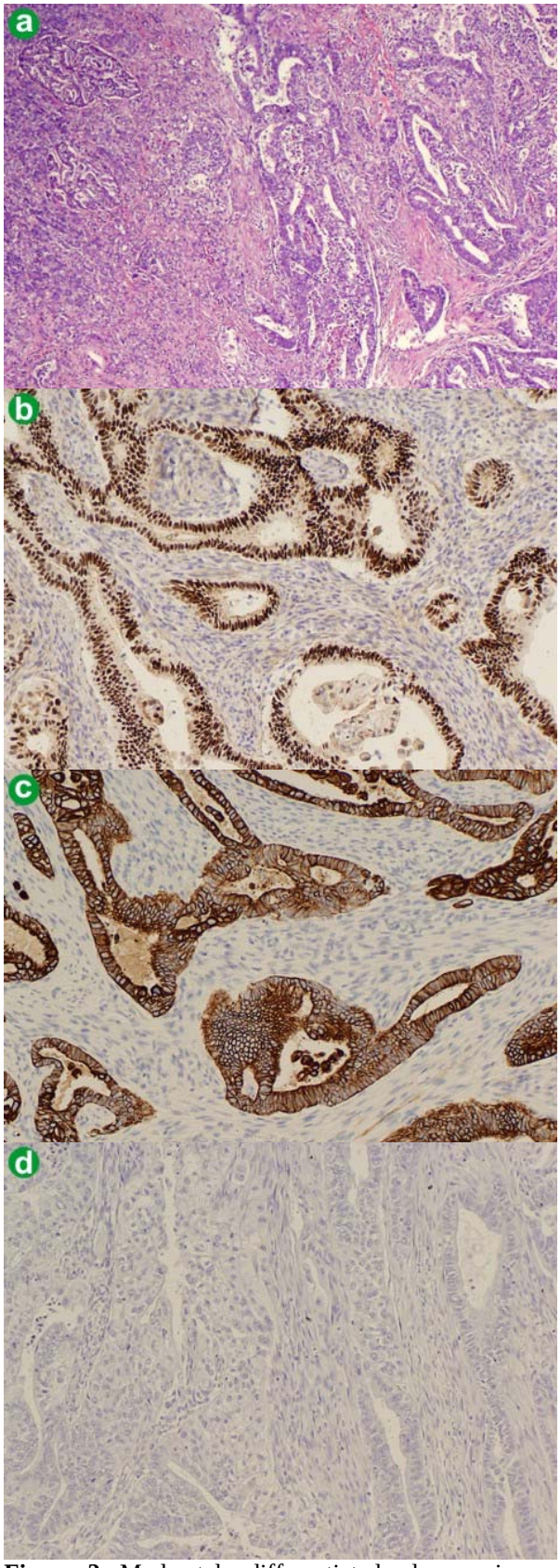

Figure 2. Moderately differentiated adenocarcinoma invading the pancreatic parenchyma. **a.** 40x magnification, pancreatic parenchyma shown at the top. The tumor was diffusely positive for estrogen receptor (**b.**) and cytokeratin 7 (**c.**), but negative for cytokeratin 20 (**d.**).

DISCUSSION

Endometrial cancer is the most common gynecologic malignancy and the fourth most common cancer overall in women, accounting for 6% of all new cancer diagnoses [9]. Most patients with endometrial cancer present with early-stage disease and have a good prognosis. However, among patients with

poor prognostic factors, up to 25-30% of women develop disease recurrence [10]. Because standard post-treatment surveillance in women with endometrial cancer does not involve routine cross-sectional imaging, patterns of recurrence are not well described. The most common sites of recurrence appear to be lymph nodes, vagina, peritoneum, and lung [10]. Metastasis to the pancreas appears to be extremely rare. In one of the larger radiographic series evaluating patterns of disease recurrence, only one of 86 patients had evidence of pancreatic metastasis [10].

We identified no previous reports of pancreatic resection for an endometrial carcinoma metastasis. In one early surgical series of 10 patients presenting with metastases to the pancreas, one patient had previously been diagnosed with endometrial cancer [7]. However, the lesion was locally unresectable and the patient did not undergo surgical extirpation. In another retrospective review of 27 patients with metastatic lesions of the pancreas, a uterine primary tumor was reported in one patient [8]. No mention was made of surgical resection of this lesion. We found no other reports of endometrial primary tumors in the other surgical series that we found that evaluated pancreatic resection for metastasis to the pancreas [4, 5, 6, 11].

In this report, we present a patient who underwent successful surgical resection of an isolated metastatic lesion in the pancreas from an endometrial primary tumor. In considering whether to attempt surgical resection of this lesion, the anticipated ability to achieve negative surgical margins was of paramount importance. Careful review of the preoperative imaging studies was critical. Intraoperatively, in order to achieve negative margins, a multivisceral resection was necessary. However, given that the expected 5-year survival for patients with stage IV endometrial carcinoma who are treated with chemoradiation is 10% even with the most aggressive protocols, potentially curative surgical resection, even multi-organ resection, appeared to be the best option for this patient [12]. Although metastasis to the pancreas from endometrial cancer is uncommon, this possibility should be considered in patients with a new pancreatic lesion and a history of endometrial cancer as pancreatic resection of metastatic disease can benefit selected patients.

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