

Adrenalectomy for Metastatic Disease to the Adrenal Gland from Gastric Cancer: Report of a Case

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Metastases to the adrenal glands are frequently found at autopsy. In practice, adrenal metastases have generally been accepted as evidence of blood-borne systemic disease. So, clinically curable adrenal metastases is a rare malady. The role for surgical resection in adrenal metastases has not been clearly defined. A 45-year-old man initially underwent total gastrectomy with D2 lymph node dissection for treating his advanced gastric cancer. A solitary adrenal metastases was resected 1 year later. The patient has survived for 3 years and no further evidence of disease was found on his last follow-up examination. We report here on this case to show that for selected cases, surgical resection of adrenal metastases is feasible and this procedure may extend survival for metastatic gastric cancer patients.

Key Words : Gastric cancer, Metastases, Adrenalectomy

INTRODUCTION

The feasibility of resecting a metastatic tumor from gastric cancer is remote because metastases from gastric cancer usually presents as multiple recurrence or as peritoneal dissemination¹⁾. Gastric cancers are associated with a higher incidence of liver metastases compared to adrenal metastases. Even without disseminated or multiple liver metastases, adrenal metastases is a part of advanced systemic disease. We report here on a rare case of resection of solitary adrenal metastases in a patient who suffered with advanced gastric cancer.

CASE REPORT

45-year-old man was admitted to our hospital due to epigastric pain that he'd had for the previous 4 months. His past medical history was unremarkable. There were no abnormal findings on physical examination. The laboratory data

was normal. Gastroscopy revealed Borrmann type 3 cancer that was 6.7×6 cm in size and located at the lesser curvature of the proximal and mid body segments of the stomach. Thus, he underwent total gastrectomy with D2 dissection for treating his advanced gastric cancer on 2002 July. Microscopic examination revealed poorly differentiated tubular adenocarcinoma infiltrating the serosa (Figure 1). A total 97 lymph nodes were dissected and 16 lymph nodes had metastases. After the operation, the patient received 6 cycles of docetaxel, cisplatin and fluorouracil combination chemotherapy till 2003 January. After that time, he was followed up regularly at an outpatient clinic, and he hadn't any specific complaints. Regular follow up abdominal computed tomography (CT) scan was performed in 2003 June. It showed an isolated right adrenal metastasis, about 4 cm in size with inhomogenous texture (Figure 2). The upper abdominal magnetic resonance image also revealed the same findings as the abdominal CT scan. We suspected a relapse of the disease. Right adrenalectomy was done in 2003 July. Histopathological examination revealed poorly differentiated adenocarcinoma, which was compatible with metastasis from

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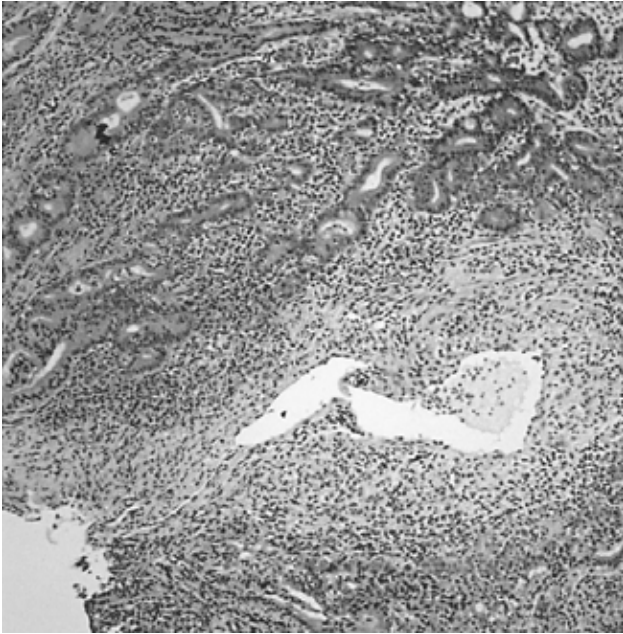


Figure 1. Microscopic findings show atypical glandular proliferation with a heavy infiltration of poorly differentiated tubular adenocarcinoma (H&E stain, $\times 100$).

gastric cancer (Figure 3). The postoperative course was uneventful. He received adjuvant S-1 oral chemotherapy for 6 cycles till 2004 September.

His latest abdominal CT scan was taken in April 2006, and it showed no local tumor occurrence or lymphadenopathy. He is currently well and is being followed up at the outpatient clinic with no further evidence of recurrence. He has survived for more than 3 years since the adrenalectomy for isolated adrenal metastasis from advanced gastric cancer.

DISCUSSION

Adrenal metastases most commonly occur in patients with lung, kidney, breast, and gastrointestinal carcinomas². Usually this occurs in the face of multiple synchronous metastases at other sites. Adrenal metastases from gastric cancer is not rare in patients with advanced disease. Concerning the rate of adrenal metastases from gastric cancer, 16~18% of patients with gastric cancer show adrenal involvement at autopsy³. Metastases from gastric cancer to the adrenal glands have been thought to occur by direct invasion, a hematogenous route or a lymphatic route. Our patient had an unusual clinical course in that there was a solitary metastasis to the adrenal gland without systemic spread. A solitary, sporadic metachronous metastasis is a very unusual presentation of metastatic disease for gastric cancer. Isolated adrenal metastasis is a rare malady



Figure 2. Abdominal CT scan showed a 4 cm sized, inhomogenous enhancing mass in the right adrenal gland.

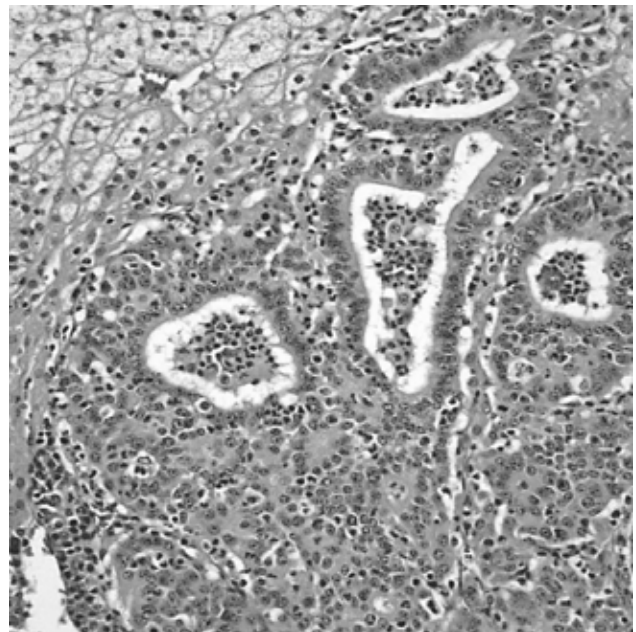


Figure 3. Microscopic findings show poorly differentiated adenocarcinoma components in the parenchyma of the adrenal gland (H&E stain, $\times 200$).

and it presents the physician a difficult therapeutic dilemma. When no other evidence of metastatic disease exists, several authors have advocated resection of adrenal metastases with curative intent in selected patients⁴⁻⁶. Long-term survivors after surgical treatment for adrenal metastases from melanoma have been reported⁷. The 5-year overall survival rate was reported to be 13% to 24% and the median survival time was from 13 to 21 months^{5, 6, 8}. Kim et al⁶ insisted that adrenalectomy should be considered for patients with completely resectable disease and for patients with the disease free interval (DFI) over 6

months as well.

For our case, the patient received postoperative docetaxel, cisplatin and 5-FU-combination chemotherapy for 6 cycles; adrenal metastases appeared within a year after the operation despite of the adjuvant chemotherapy.

Surgical resection is rarely indicated for recurrent or metastatic gastric cancer because it tends to occur in multiple sites and it shows aggressive biological behavior⁹⁾. Lung metastases usually manifest as lymphangitis carcinoma, whereas a solitary pulmonary metastases from gastric cancer is a rare finding¹⁰⁾. Even if it is histologically proven to be a solitary lesion limited to the lung, surgical treatment may not improve the prognosis¹¹⁾. There are a few recent reports on adrenalectomy for metastatic carcinoma^{5, 6, 8)}. These reports did not contain many cases of adrenalectomy for gastric cancer. Based on Lam's report⁹⁾, gastric cancer is the second common primary site followed by lung primaries. One report proposed the possibility of administering surgical therapy for the distant metastases of gastric cancer¹²⁾. They suggested that solitary and late appearing metachronous tumors are associated with an improved prognosis after surgical therapy. They also proposed that the risk of metastasectomy is generally low; if there is no optional therapy with a chance of cure, then metastasectomy can be feasible.

There has been a Japanese study that reported on long term survival after resection for adrenal metastases from gastric cancer¹³⁾. Some authors advocated surgical resection of the adrenal metastases because of the better survival rates than that for nonsurgical treatment^{6, 9)}. In the absence of a randomized clinical trial or a large case-controlled series, any patients who achieve long-term disease free survival can be assumed to have derived clinically significant benefit.

We need to clarify which characteristics may identify the patients who are most likely to have prolonged survival after adrenalectomy. A DFI of over 6 months can be important factor associated with improved survival⁶⁾. The prognostic value of DFI has been also observed for resection of metastases from other organs such as liver metastases from colorectal carcinomas. The completeness of disease resection as well as the histological type (adenocarcinoma vs. all others) have been previously reported as important prognostic indicators^{5, 6)}.

The management of adrenal metastases from gastric cancer

can be dilemma to clinicians. This report shows that resection of isolated adrenal metastasis from gastric cancer is feasible in selected patients and this can extend the patient's survival.

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