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Concomitant resection of isolated adrenal metastasis in a gastric cancer patient

Gastrik kanser hastasında izole adrenal metastazın eş zamanlı rezeksiyonu

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Abstract

Metastasis of gastric adenocarcinoma to the adrenal gland is rare. In the literature, adrenal gland metastasis has been reported generally during postoperative follow-up. We aimed to discuss a gastric cancer case with left adrenal gland metastasis diagnosed preoperatively and the simultaneous surgical resection of the gland during total gastrectomy with D2 dissection. A preoperative abdominal computed tomography (CT) scan revealed thickening of the adrenal gland in a 65-year-old male patient diagnosed with gastric adenocarcinoma located at the cardia. A positron emission tomography/computed tomography (PET-CT) scan was performed and showed an isolated adrenal metastasis. Total gastrectomy with D2 lymph node dissection and simultaneous left adrenalectomy were performed. The histopathological examination revealed gastric tumor tumor extending to the serosa (T4), 15 out of 43 lymph nodes positive (N3), adrenal gland metastasis (M1); thus stage 4 disease. There has been no metastasis in the 15-month follow-up period. Although management of metastasis in gastric carcinoma is controversial, we suggest the evaluation of the resection potential of isolated metastases in gastric cancer as performed in many other types of cancer.

Keywords: Adrenal metastasis, gastric cancer, surgical treatment.

Öz

Gastrik adenokarsinomun adrenal beze metastazı nadirdir. Literatürde adrenal metastaz genellikle postoperatif takip sürecinde bildirilmiştir. Biz preoperatif adrenal metastaz saptanan mide kanseri olgusunda total gastrektomi ve D2 diseksiyon ile eş zamanlı adrenalektomi uygulanan olguyu tartışmayı amaçladık. Altmışbeş yaşında kardia yerleşimli gastrik adenokarsinom olan erkek hastanın yapılan preoperatif batın bilgisayarlı tomografisinde adrenal bezde kalınlaşma saptanması üzerine pozitron emisyon tomografisi ile tarama yapıldı ve izole adrenal metastaz lehine yorumlandı. Hastaya total gastrektomi ve D2 lenf nodu diseksiyonu yanı sıra eş zamanlı sol adrenalektomi uygulandı. Histopatolojik inceleme sonucu tümör (T4), 43'te 15 lenf düğümleri pozitif (N3), ve adrenal metastaz (M1 sonrası evre 4 hastalık olarak raporlandı. Onbeş aylık takip periyodunda metastaz izlenmedi. Mide kanserinin metastaz yönetimi halen tartışmalı olsa da izole uzak metastazların birçok kanser türünde olduğu gibi mide kanserinde de rezeksiyon açısından değerlendirilmesi için uygun olacağını düşünüyoruz.

Anahtar Sözcükler: *Gastrik kanser, adrenal metastaz, cerrahi tedavi.*

Introduction

The adrenal gland is among the most common metastasis sites of tumors. The presence of metastases almost always influences the choice of treatment. Almost one in four patients with a previously diagnosed extra-adrenal malignancy is reported to have adrenal spread at autopsy (1,2). Metastasis of gastric adenocarcinoma to the adrenal gland is rare and generally reported in the postoperative follow up period.

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Although the first line of treatment for adrenal metastasis, particularly isolated masses, is surgical, this option is rarely applicable for metastasis of gastric tumors as it usually coexists with multiple synchronous metastases at other sites (2,3).

In this study, we report a gastric cancer patient diagnosed preoperatively with isolated adrenal metastasis and treated surgically during the main surgical procedure.

Case Report

A 65 year-old male patient was admitted to our hospital with epigastric pain, weight loss and dysphagia. His physical examination and surgical history were nonspecific. He had a smoking history of 40 pack-years

and was a social drinker. His laboratory results were normal, except for an elevated CA-125 level of 181.4 U/ml (range:≤35 u/ml).

Endoscopic examination showed a tumoral mass located at the gastroesophageal junction, which was subsequently diagnosed as gastric adenocarcinoma. In addition to gastric findings, computed tomography (CT) of the abdomen showed thickening of left adrenal gland measuring 62x43x30mm, which was suspicious for metastatic disease (Figure-1a). As a staging work-up, a positron emission tomography/computed tomography (PET/CT) scan revealed a hypermetabolic focus in the left adrenal gland with a maximum SUV of 7.5, suspicious for metastatic disease. The serum cortisol value and adrenocorticotropin hormone level were 24 ug/dL (normal range: 7-25 ug/dL) and 10.2 pg/dL (normal range: 5-27 pg/dL), respectively

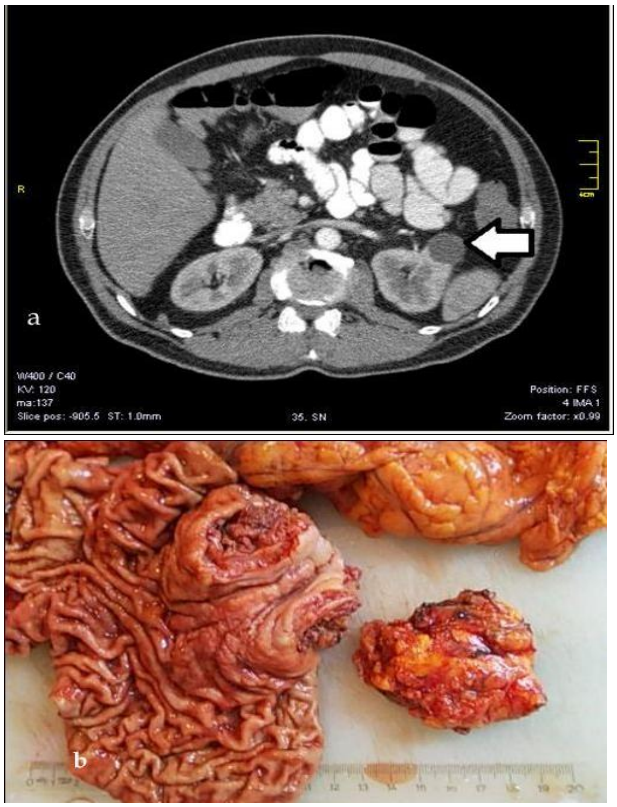


Figure-1. a. Abdominal CT revealed an adrenal mass suspected with metastasis (white arrow) **b.** Gastric tumor (left) and adrenal metastasis (right seperated mass) after resection.

Laparotomy revealed gastric cardia cancer. Total gastrectomy with D2 lymph node dissection and left adrenalectomy were performed (Figure-1b). His postoperative period was uneventful. He was discharged on the seventh postoperative day. Histopathological examination revealed that the tumor had extension to the serosa (T4) and 15 of 43 lymph nodes removed were positive (N3). He was diagnosed with stage 4 disease with adrenal gland metastasis (M1). Adjuvant therapy was given after surgery. No recurrence was detected in the follow-up period of 15 months**.**

The patient has given written informed consent for publication of this case report and the accompanying images.

Discussion

Adrenal metastasis most commonly originates from cancers of the lung (35%), stomach (14%), the esophagus (12%) and the liver/bile ducts (10%) (1,3). Postmortem investigations report that 16%–18% of patients dying of gastric cancer have adrenal involvement (3).

Adrenal metastases occur bilaterally in almost 50% of patients (2), while it was located only on the left adrenal gland in our patient. Furthermore, many of the metastatic adrenal lesions in the literature had occurred shortly after the detection of the primary tumor, with an average latent period of seven months (2), in contrast to our patient who had adrenal metastasis concomitantly detected with gastric tumor.

Management of metastatic gastric carcinoma is controversial. Adjacent organ resections in patients with distant metastasis were applied as palliative procedures. Although adrenalectomy for a metastatic tumor showed poor prognosis with overall 5-year survival between13% and 29%, patients with surgically removed adrenal metastases had longer survival than those without adrenalectomy (2-5). Mokuno et al. (3) reported a case with long-term survival after the removal of meta-chronous bilateral adrenal metastases of gastric cancer.

Adrenalectomy can be applied safely to solitary, resectable lesions, and prolonged survival can be achieved in such selected patients (4). Fumagalli et al. and Dellaportas et al. reported that particularly those with adenocarcinoma of the esophagogastric junction benefit from adrenalectomy in case of the only site of metastasis beyond lymphnodal disease (6,7). Chemotherapy should also be considered before adrenalectomy but, due to the severity of the symptoms related to dysphagia, we planned the surgical intervention as early as possible for this patient. Kim SH et al. recommended adrenelactomy for patients with completely resectable lesions and reported a disease free interval greater than 6 months. In the present case, the tumor was appropriate for R0 resection and operative load (4).

In the literature, in case of detection of adrenal metastasis during the follow-up period, resection of adrenal metastasis is reported as an effective treatment option, which can prolong the survival rate (3,4,8). As most of the reports published include case reports, it is quite hard to conclude and further large series are required to make a consensus for treatment of isolated metastasis of gastric cancer.

In this case, we diagnosed isolated adrenal metastasis of gastric adenocarcinoma in the preoperative evaluation period. We planned to perform concomitant left adrenalectomy with radical gastrectomy. Adrenal metastasectomy for isolated metastatic lesions can potentially aid in achieving long-term survival in a highly selected group of patients.

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