

SEGMENTAL LIVER RESECTION FOR METASTASIS OF SYNCHRONUS PANCREATIC NET AND COLON ADENOCARCINOMA

Senkronize pankreas NET ve kolon adenokarsinoma metastazında segmenter karaciğer rezeksiyonu

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ABSTRACT

Colorectal cancer is the third most frequent cancer. About 50-60% of the patients develop synchronous or metachronous metastases. The liver is the most common site of such metastases. Pancreatic neuroendocrine tumors constitute about 2% of all gastrointestinal neoplasms. Approximately half of the pancreatic neuroendocrine tumors are nonfunctional. Presence of coexisting colon adenocarcinoma in a patient with nonfunctional pancreatic neuroendocrine tumor is very rare. Patient, who had been underwent Whipple procedure and left hemicolectomy for pancreatic neuroendocrine tumor and colon adenocarcinoma, was referred to our center with liver metastasis. Despite the origin of metastasis was not known, both metachronous tumors metastasis to liver were recommended.

Key words: Liver, kolorektal metastasis, neuroendocrin, resection and treatment.

ÖZET

Kolorektal kanser sıklığında üçüncü sırada yer almaktadırlar. Hastaların yaklaşık %50-60'ında senkron veya metakron tümör gelişmektedir. Karaciğer bu metastazların en sık görüldüğü organdır. Pankreatik nöroendokrin tümörler ise bütün gastrointestinal sistem tümörlerinin yaklaşık %2'sini oluşturmaktadırlar. Pankreatik nöroendokrin tümörlerin yaklaşık yarısı non-fonksiyoneldirler. Kolon adenokarsinomu ve pankreatik nöroendokrin tümörün bir arada görülmesi çok nadir bir durumdur. Pankreas nöroendokrin tümörü nedeniyle Whipple prosedürü ve sol kolon tümörü nedeniyle eşzamanlı sol hemikolektomi uygulanmış olan hasta karaciğer metastazı nedeniyle kliniğimize yönlendirildi. Bu olguda ki, karaciğer metastazının nereden kaynaklandığı bilinmese de, her iki tümörün karaciğer metastazının, rezeksiyon endikasyonu olduğu düşünülerek, karaciğer rezeksiyonu uygulandı.

Anahtar kelimeler: Karaciğer, kolorektal metastaz, nöroendokrin, rezeksiyon, tedavi.

INTRODUCTION

Colorectal carcinomas rank third in frequency among primary sites of cancer in both men and women. The liver is the first and most common site of

metastatic spread from colorectal carcinoma. Despite, most of the patients with colorectal tumor could go on for curative resection at the time of diagnosis, the disease recurs in more than half of the patients, with

the liver involved in up to two-thirds of the cases. Synchronous liver metastases are diagnosed in approximately 15% of the cases. In such patients, liver disease represents the sole site of distant metastases in more than 75%. Metachronous liver metastases develop in 16–20% of patients usually within the first 3 years. The choice of the optimal treatment strategy in patients with liver metastases depends on general clinical data. Surgical resection is the gold standard in the treatment of colorectal liver metastases. The value of hepatic resection for colorectal liver metastases has never been demonstrated in prospective randomized trials (1,2). Surgical strategy is very important for successful treatment of patients with colorectal liver metastases.

Pancreatic neuroendocrine tumors (PNETs) are rare neoplasms representing <5% of all pancreatic malignancies with an estimated incidence of 1-1.5 cases/100,000. PNETs are broadly classified as either functional or nonfunctional (3). Nonfunctional PNETs typically remain clinically silent until a substantial mass effect occurs. Only about 25% of patients with nonfunctional PNETs are able to undergo a potentially curative resection (4). Resection of liver metastases from neuroendocrine tumors should, however, if done for cure be considered only after the primary tumor and its local extension have been controlled (5). For palliative reasons cytoreductive hepatic surgery is recommended if the primary and regional diseases are controlled and 90% or more of all hepatic metastases can probably be removed.

The aim of sparing healthy liver parenchyma by performing a limited resection instead of a major hepatectomy for colorectal liver metastases is becoming widely accepted (6,7). Postoperative liver function is well preserved in patients who have undergone both wedge resection and anatomic bisegmentectomy as an alternative to major hepatectomy (8,9). The purpose of this paper is to review the results of segmental hepatic resection in terms of short-term outcomes.

Case

In 2011, a 62 year-old female patient was assessed for rectal bleeding and colonoscopic examination was performed. The source of bleeding was a polyp in left colon and polyp was removed for histologic examination. Result of hystopathologic examination was colon adenocarcinoma. In the preoperative evaluation, abdominal computed tomography(CT) imaging revealed a coexisting mass in the head of pancreas. Whipple procedure for the pancreatic mass and left hemicolectomy for colon adenocarcinoma were performed in the same operation. The result of hystopathology confirmed the diagnosis as pancreatic neuroendocrine tumor for pancreatic mass. The patient went on adjuvant chemotherapy for coexisting tumors.

After adjuvant chemotherapy, the patient was disease-free for 14 months. In the screening tests, positron emission tomography (PET) CT revealed a

mass with increased fludeoxyglucose (FDG) activity in liver. Then the patient was referred to our center for liver resection.

In the preoperative setting for liver resection, volumetric CT scan for liver, tumor marker assessment, routine blood samples and thorax CT for detection were routinely performed. CT revealed a 3.5 cm diameter mass in segment 6 (Figure 1). Segment 6 volume was 15% of all liver and right hepatic lobe volume was 70%. Remnant liver volume would not be enough and liver failure could be occurred with right hepatic lobectomy. And also we had to do new biliary reconstruction for the hepaticojejunostomy of Whipple procedure. So we planned a parenchyma sparing surgery.



Figure 1: The computerized tomography image of the metastatic lesion.

We performed a reverse-T incision, right posterior pedicle was found and clamped. A demarcation line was occurred between right posterior and right anterior segment. Segment 6 was resected with crush clamp technique. The remnant liver was enough and we did not need a new biliary reconstruction (Figure 2,3) with this feasible technique. The patient did not need blood transfusion. The postoperative course was uncomplicated and the the patient was discharged from hospital on the postoperative 6th day.

DISCUSSION

Over time, the conventional indications for surgical therapy of colorectal liver metastases have given way to more aggressive indications. Currently, according to the conclusions of the Consensus Conference of the American Hepato-Pancreato-Biliary Association, colorectal liver metastases should be considered resectable whenever the disease can be completely resected, two adjacents liver segments can be spared, adequate vascular inflow and outflow and biliary drainage can be preserved, and the FLR is sufficient (10).



Figure 2: Remnant liver after segment 6 resection and previous biliary reconstruction. Remnant liver after segment 6 resection (above) and previous biliary reconstruction (below).

Resection of liver metastases from neuroendocrine tumors should, however, if done for cure be considered only after the primary tumor and its local extension have been controlled (5). In the last decades, improvements in patient selection, anesthesiologic monitoring, surgical techniques and perioperative critical care have resulted in a significant decrease in the surgical risk. In the preoperative setting, volumetric CT with contrast injection is useful as a screening modality or in preoperative planning such as volumetric estimation of the remnant liver size or in defining preoperative vascular anatomy.

In conclusion, parenchyma-sparing liver resection is a safe alternative to major hepatectomy in patients with colorectal liver metastases, provided that a radical intervention is performed. This approach better preserves postoperative liver function, decreasing the risk of liver dysfunction.

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