Liver Transplantation for a Giant Hepatic Neuroendocrine Tumour in the Liver

Dev Karaciğer Nöroendokrin Tümörü için Karaciğer Nakli

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A 45-year-old woman from another country was suffering from dyspepsia, weight loss and early satiety. Her GGT and ALP levels were 1172 U/L and 369 U/L, respectively. Computed tomography (CT) of the abdomen revealed a 12x18 cm solid lesion in the right lobe and a 6x8 cm lesion in the left lobe of the liver (Figure 1a). The intrahepatic bile ducts were dilated. The biopsy results were consistent with a neuroendocrine tumor type I; the Ki67 proliferation index was 1%. Histology revealed a trabecular pattern coexisting with PGP 9.5, cytokeratin-19, chromogranin and CD56 positivity. CEA, HCC, insulin, gastrin, TTF-1 and CDX-2 staining was negative. It was suspected to be a primary liver neuroendocrine tumor. Positron emission tomography revealed pathological activity only in the liver. The tumor was subsequently deemed to be unresectable because of the inadequate remnant liver volume and liver transplantation (LT) was planned. Until the LT, long-acting somatostatin analogues were given to the patient. As one lesion was wrapped around the inferior vena cava (IVC), cadaveric LT with an IVC was the ideal approach, as a cadaveric LT would permit us to explant the liver with the IVC. However, according to the laws of Turkey, foreign patients cannot be listed in the National Organ Sharing Network. This situation made a living related LT the only choice. Her brother was evaluated as a living donor. We prepared a vascular graft before the operation in preparation for the possibility that the liver could not be resected from the IVC. Recipient hepatectomy was performed without the need for an IVC graft (Figure 1b, c). Living related LT was performed with a right lobe graft. Handling the liver and manipulating it into place over the inferior vena cava was difficult. In order to ease the operation, a transient portacaval vascular shunt was performed after portal vein division. We managed to explant the liver without any damage to the IVC, and portal vein re-anastomosis was performed. The neuroendocrine tumours were 24 cm and 9 cm in diameter (Figure 1d). There were infiltrative areas in other parts of the liver. The hilar lymph nodes were free of metastases. The patient has been followed for one year with thoracoabdominal CT and blood chromogranin levels without recurrence.

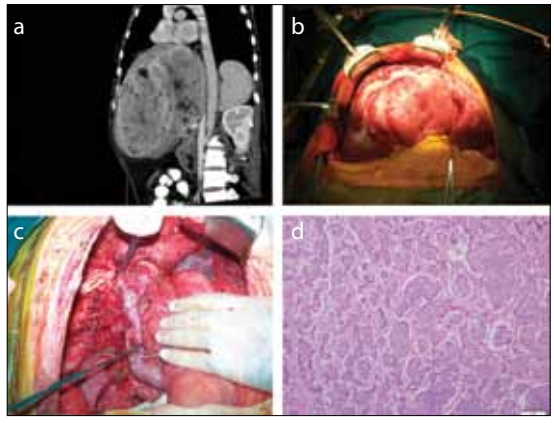

Figure 1. a) Sagittal-oblique post-contrast CT image demonstrates a 22 cm heterogeneously enhanced well-circumscribed mass with areas of necrosis in the right lobe of the liver, causing dilation of the intrahepatic bile ducts and compression of the inferior vena cava, b) After the abdominal incision, a giant neuroendocrine tumor can be seen on the liver. There are necrotic areas on the surface of the liver, c) Inferior vena cava and portacaval anastomosis can be seen after liver explantation, d) Tumoural lesion composed of uniform neoplastic cells in a solid and trabecular pattern (H&E, 100x)

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Neuroendocrine tumours arise from the widespread neuroendocrine system and commonly metastasise to the liver (40-93%). Transplantation is the best choice of treatment in suitable patients with bilobar, unresectable hepatic tumours and no other extrahepatic disease. Patients with liver neuroendocrine tumours who have undergone LT show long-term survival similar to that of patients with HCC (1, 2). This study also demonstrates that LT needs from other countries cannot be met by cadaveric LT in Turkey. This induces us to perform living related LT for these patients, including the difficult cases. Even if a neuroendocrine tumour in the liver is very large, LT from a living donor can be performed without complication, as in our case.

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