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PEDUNCULATED GIANT HEPATOCELLULAR CARCINOMA: REPORT OF A CASE

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Pedunculated hepatocellular carcinoma (HCC) showing extrahepatic growth is extremely uncommon. We present the case of a 41-year-old man admitted for further examination of right hypochondrial pain. Computed tomography revealed a huge suprarenal tumoral mass. Under laparotomy, we found that the tumor was pedunculated from the right lobe of the liver. Histologic findings revealed HCC. The patient was treated by mass resection and postoperative adjuvant chemotherapy. Thirteen months after the operation he was still alive without any recurrence in the postoperative course.

Key Words: Pedunculated Hepatocellular Carcinoma.

Pediküllü Dev Hepatosellüler Karsinom: Olgu Sunumu

Pediküllü hepatosellüler karsinom (HCC), ekstrahepatik büyüme gösterir ve oldukça nadir görülür. Sağ hipokondrial ağrı şikayeti nedeni ile araştırılan 41 yaşında erkek hasta sunulmaktadır. Bilgisayarlı tomografi ile sağ suprarenal dev tümöral oluşum saptandı. Laparotomi yapıldıktan sonra kitlenin pediküllü olduğu ve pedikülünün karaciğer sağ lobuna uzandığı görüldü. Kitlenin histopatolojik bulguları HCC ile uyumluydu. Hastaya, kitlenin rezeksiyonundan sonra adjuvan kemoterapi uygulandı. Operasyondan 13 ay sonra, hastada hastalığa ait ek bulgu yada rekürrens gözlenmedi.

Anahtar Kelimeler: Pediküllü Hepatosellüler Karsinom.

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Pedunculated hepatocellular carcinoma (HCC), in which a pedicle arises from the hepatic lobe and in which parenchymatous invasion is slight, is very rare. Edmondson and Steiner in 1954 quoted several earlier reports on this unusual form in their article on HCC (1). Horie et al. reported that pedunculated HCC constitutes 0.24% to 3.00% of all HCCs in Japan (2). Although not a novel finding and able to be diagnosed early by various imaging modalities, the clinicopathologic findings have not been fully clarified, and the outcome varies in each series (3-5). Here, we present an interesting case of a giant pedunculated HCC.

CASE REPORT

A 41-year-old man was admitted to Gazi University Hospital with severe right hypochondriac pain. On physical examination, a mass was palpated in the right upper quadrant of the abdomen. Serum HbsAg was negative, serum alpha-fetoprotein (AFP) was 2.27 ng/mL and carcinoembryogenic antigen was 2.13 ng/mL. Computed tomography (CT) scans showed a huge relatively well-marginated mass abutting the liver. The distinction between the liver and the mass was not seen clearly in more cranial sections. The mass was hypodense to the liver parenchyma and there was strongly enhanced capsule formation (Fig. 1). The inferior vena cava was compressed and distorted by the mass but no clear radiologic evidence of invasion was observed. Celiac angiography showed there were no hepatic arterial feeders (Fig. 2A) and aortography showed that the tumor was fed by direct aortic branches (Fig. 2B). The inferior vena cava contours were smooth and indented by the external mass, but there was no angiographic evidence of invasion. The preoperative radiologic diagnosis was a huge pedunculated hemangioma. A retroperitoneal adrenal mass could not be ruled out. The mass underwent a US-guided fine needle aspiration biopsy and the cytologic diagnosis was hepatocellulary carcinoma. The pathology was not detected in the endoscopy of the upper or low gastrointestinal tract or thorax CT.

The patient underwent surgery on September 15th 2002. The mass was located in the right upper abdomen and a pedicle arose from the right lobe of the liver. The surface of the mass was irregular, and many venous dilatations were noted on the surface. The resected mass was encapsulated, 2850 g in weight, and 25 x 16 x 11 cm in size. This mass is the one of the largest recorded in the literature. It was generally a soft mass that displayed varying tones of gray and purple, punctuated by foci of hemorrhage and scattered areas of necrosis (Fig. 3). Histopathologically, the tumor had no real capsule. The cells were polygonal with hyperchromatic and pleomorphic nuclei and finely granular eosinophilic cytoplasm. There were asymmetric nuclear contours and sometimes prominent nucleoli. Rare mitotic figures were observed. Widespread necrotic areas and vascular invasion were present. Infiltration of the tumor cells into the surrounding soft tissues was seen (Fig. 4). The

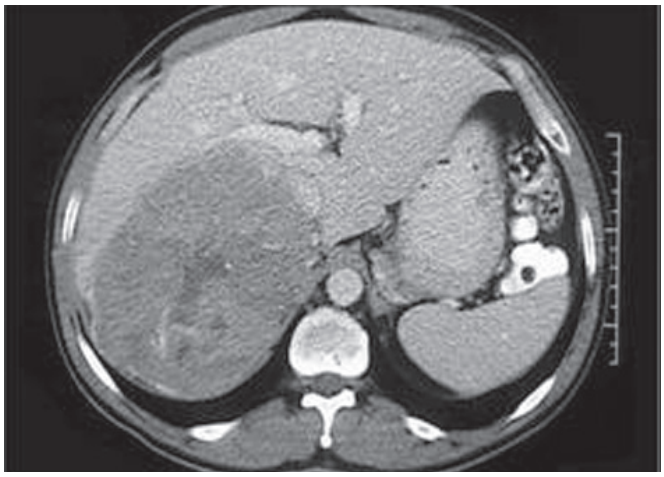


Figure 1. CT scans; huge relatively well-marginated mass. Distinction from the liver is difficult in more cranial sections. Satellite-shaped hypodense area (probably represents necrotic tissue) and centrally located coarse calcifications in the mass.

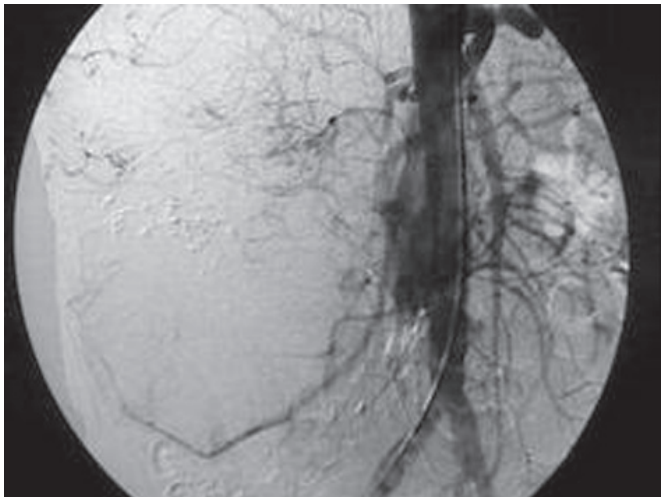
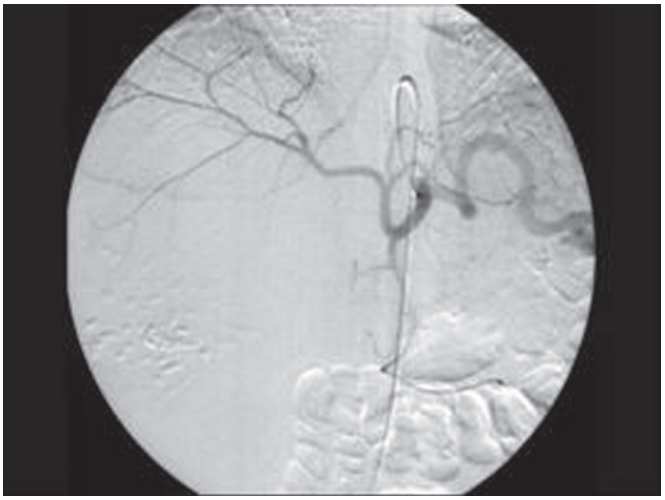


Figure 2A. Celiac angiography showed there were no hepatic arterial feeders.



2B. Tumor was fed by direct aortic branches.

reticulin pattern was deficient when compared with a normal liver, and silver impregnation only outlined the sinusoids with surrounding thick cell cordons. The tumor cells were immunoreactive with HCC. Histologic findings revealed Edmondson's II Grade HCC. The TNM classification of the tumor was T2N0M0 and the patient received adjuvant chemotherapy (doxorubicine and 5-flourouracil protocol-4) in the postoperative period. It has been 24 months since the operation and for the time being he is asymptomatic.

DISCUSSION

The first report about pedunculated HCC was by Goldberg and Wallenstein, who reported an extrahepatic growth of HCC arising from the lower surface of the left lobe, with a pedicle of about 1.5 cm in diameter in 1934 (6). Edmondson and Steiner described this type of HCC as pedunculated hepatoma in 1954 (1). Nakashima defined pedunculated HCC as massive tumors proliferating extrahepatically with or without a peduncle (7). Since these descriptions, several reports have discussed the clinical and pathological features of pedunculated HCC. A number of hypotheses might explain this entity. Goldberg et al. suggested that such an extrahepatically growing HCC might arise from congenitally displaced lobules in Glisson's capsule (2). Suggested origins of extrahepatic HCC include the Riedel lobe, a protruding portion of the liver, an accessory lobe, and ectopic liver (7). Right-sided pedunculated HCC may be a form of adrenal metastasis. Most right-sided pedunculated HCCs represent fusion of the right lobe of the liver and paraadrenal or adrenal-metastatic HCC. This phenomenon may be explained by transport of cancer cells toward the right adrenal gland through so-called adrenohepatic fusion, a relatively common anatomical change in advanced age (8).

Tumor-associated symptoms such as a palpable mass, intractable pain and weight loss in patients with pedunculated HCC are uncommon, even in advanced stages. Yeh et al. showed that the demographics, symptomatology, physical findings, biochemical data, hepatitis disease status, and associated liver condition were similar for the pedunculated HCC and nonpedunculated HCC (3). In contrast, Cunningham et al. reported that pedunculated HCC was less associated with hepatitis and AFP (9). However, serum AFP was not the first diagnostic clue for pedunculated HCC in our patient. Thus, initial and laboratory abnormalities are generally minimal with this tumor, and so the role of imaging procedures for diagnosis of the tumor is important. Ultrasonography, CT, and hepatic angiography, which were performed in approximately 90% of the HCC patients, demonstrated positive findings in 90% of patients tested 10. Angiography may provide useful information on the vascular supply of the tumors with hypervascular encapsulation.

Early diagnosis and a prompt decision concerning surgical resection are necessary in patients with pedunculated HCC. Most pedunculated tumors were removed by minute procedures such as wedge resection or subsegmentectomy.

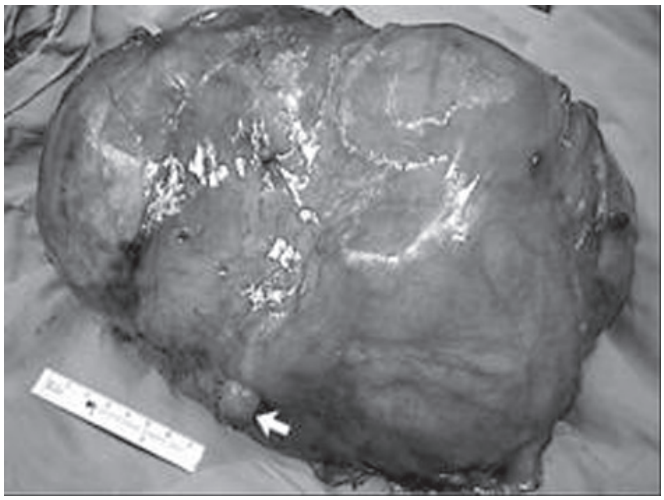


Figure 3. The mass is 2850 g in weight
(The arrow indicates the remnant pedicle).

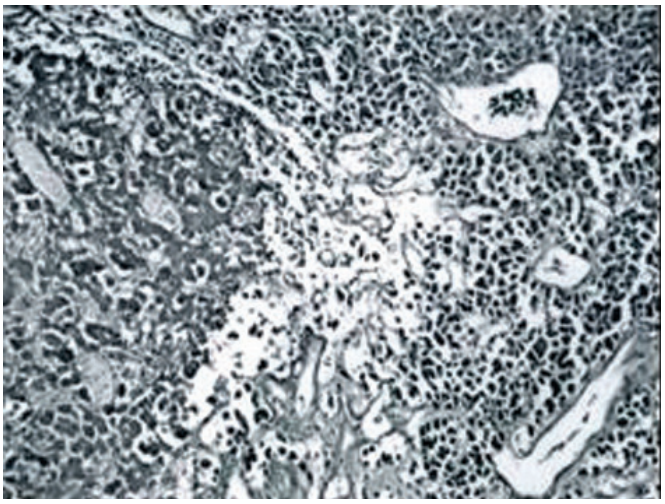


Figure 4. Hepatocellular carcinoma showing poorly differentiated tumor cells with widespread necrosis on one side and invasion of tumor cells into the vessels in the surrounding soft tissues. (HEx100)

In spite of the high operability rate in the cases reviewed (113 of 163 cases; 69%), patients with pedunculated HCC are unlikely to have as favorable a prognosis as patients with fibrolamellar HCC and encapsulated HCC, who often survive for a few years without treatment (11,12). This was attributed to the advanced stage of the lesions due to delayed diagnosis. In previous reports, many authors have identified several important pathological features of HCC affecting the prognosis (3). The influence of tumor size is attributed to many factors, including the increased invasiveness associated with a large tumor; moreover, the tumor size determines the adequacy of the resection. However, in this case we report a contrary observation. Our patient had a large tumor, but it did not have any adverse effect on survival. Encapsulated tumors are relatively well differentiated and the capsule is the product of slow-expanding growth. These tumors show much lower incidence of direct liver invasion, microsatellites and venous permeation, and significantly better disease-free and survival rates are observed in patients with encapsulated tumors. Radiologic evaluation of HCC by dynamic CT and MR may help in the diagnosis of pseudocapsules constructed from connective fibrous tissue. This is not a true capsule actually but the contrast enhancement pattern can sometimes be diagnostic for HCC. Encapsulation does not increase or decrease with tumor size. Thickness varies between 0.1 and 6 mm (13).

In conclusion, pedunculated HCC is an uncommon type of HCC with a rapid progressive nature if appropriate surgical resection is not performed at an early stage.

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