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Case Report

CASE REPORT

Adrenocortical carcinoma co-occurrence with a hepatocellular carcinoma within an adrenohepatic fusion: a case report

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Abstract

Adrenohepatic fusion is a relatively common condition that has been reported in the literature and explained as a result of normal aging. However, the presence of a neoplastic process in the adrenohepatic fusion is relatively uncommon. A 48-year-old male presented with RUQ abdominal pain with findings of a huge liver mass with adrenohepatic fusion in the computed tomography scan. Histopathological studies revealed a mixed, although distinctly separated, adrenocortical carcinoma and a hepatocellular carcinoma within an adrenoheaptic fusion.

INTRODUCTION

Adrenohepatic fusion is a relatively common condition that has been reported in the literature and explained as a result of normal aging. However, the presence of a neoplastic process in the adrenohepatic fusion is relatively uncommon, especially when it is a malignant neoplasm. Here, we present a patient with a malignant mass consisting of an adrenocortical carcinoma and hepatocellular carcinoma arising from an adrenohepatic union.

CASE REPORT

A 48-year-old male presented with his RUQ abdominal pain that is relieved by lying on the right side and sleeping. The patient had no past history of any disease, nor diagnosed of any chronic illnesses. The computed tomography (CT) scan for abdomen was done and showed large retroperitoneal mass of heterogeneous density, with heterogeneous contrast enhancement posterior to the liver (Fig. 1). The mass measured 11 × 11 × 12 cm displacing the right kidney, and the right lobe of the liver and IVC anteriorly. There was focal invasion of the liver measuring 3.6 × 6.4 cm at Segment 7. The right adrenal gland was not clearly visible. The patient underwent an US-guided core biopsy of the mass that showed malignant cells consistent with both adrenocortical carcinoma and hepatocellular carcinoma; however, the former diagnosis was favored based on the clinical picture. The patient went for a right hepatectomy with right adrenalectomy, cholecystectomy and excision of associated lymph nodes. The lesion and the excised structures were sent for histopathology

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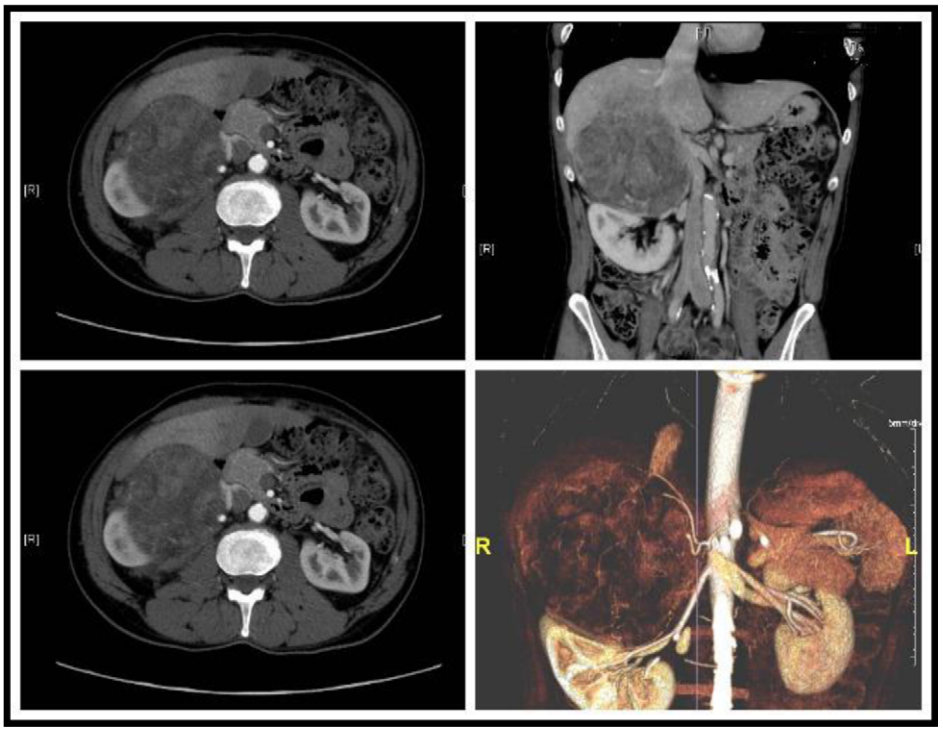

Figure 1: Sections of the CT showing a large retroperitoneal mass, focal absence of fat gland and an invasion into the liver.

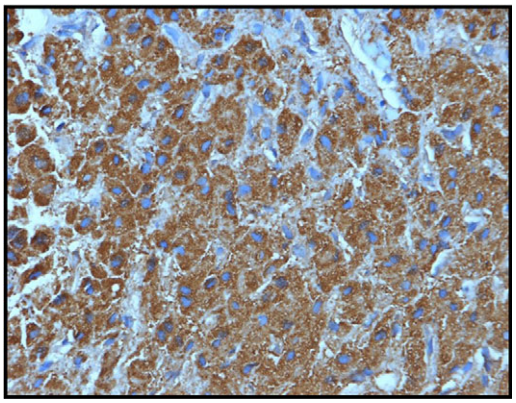

Figure 2: Section from the hepatic mass showing positive staining of the tumor cells with the hepar IHC stain confirming the hepatic nature of the liver mass.

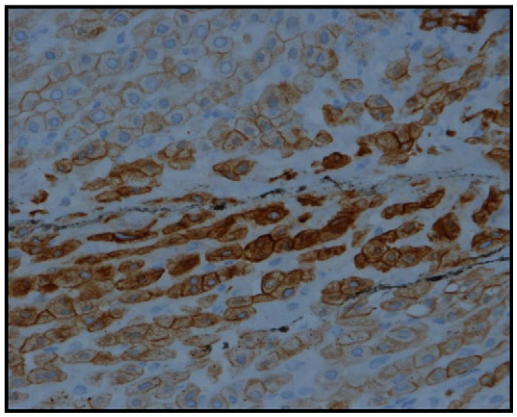

Figure 3: Section from the adrenocortical mass showing strong positive cytoplasmic staining with low molecular weight cytokeratin-cam 5.2 IHC stain.

that showed a right liver lobe mass attached to it measuring 17 × 10 × 7 cm, and the cut section of the mass showed nodular surface with multiple areas of necrosis. Slicing of the liver showed a gray white mass measuring 5 × 5 × 3 cm, which is adherent to the mass and the remaining liver parenchyma appear unremarkable. The microscopic examination of the mass revealed a moderately differentiated HCC measuring 5 cm in diameter, confined to the liver, <5 cm from resection margins and no lymph-vascular invasion (Fig. 2), and a separate adrenocortical neoplasm measuring 17 cm in diameter, multiple foci of necrosis, no capsular or lymph-vascular invasion and resection margins were not involved by the tumor (Fig. 3). Excised lymph nodes included a single right portal vein lymph node, a gallbladder lymph node and seven para aortic lymph nodes. All lymph nodes were negative for metastasis. Gallbladder examination showed no significant pathology. Postoperative assessment of the patient revealed that he recovered gradually and was discharged.

DISCUSSION

Adrenohepatic fusion is a relatively common observation during autopsies [1]; however, neoplasms arising from the union are very poorly reported. In our case, an adrenohepatic fusion was detected using a CT scan of the abdomen that showed focal areas of loss of fat gland between the retroperitoneal mass and the liver. Dolan defined adrenohepatic union as the adhesion of the liver and the right adrenal cortex with the partial or complete absence of a fibrous capsule dividing the two organs [2]. Adrenocortical adenoma arising from an adrenohepatic union was reported in several cases [3]; however, we could not find a report that describes an adrenocortical carcinoma combined with a HCC from an adrenohepatic union in the literature as the case we present here. A differential diagnosis of HCC must be considered in such a case as the histopathology

of the resected lesion shows mixed malignancies of adrenocortical carcinoma in the adrenal part of the lesion and a HCC in the hepatic part and several cases were reported in the literature of a primary HCC extending into the right adrenal directly [4], or to both adrenals as the first presentation of HCC metastasis [5], other reports mentioned cases where an HCC has developed in an ectopic liver tissue [6]. On the other hand, an adrenocortical tumor that developed from an adrenal rest inside the liver with radiological findings of HCC was also reported [7]. Okuda introduced a few cases of HCC presenting as pedunculated masses outside the liver most of which had dual blood supply of a hepatic and a suprarenal artery that might support the fusion phenomenon, furthermore, none of the masses were discovered in the left adrenal, which, again, supports fusion and invasion rather than hematogenous spread [8]. Core biopsy was reported in different similar cases to be of diagnostic value that changed the presumed diagnosis based solely on imaging modalities [5]. In our case, after using a CT scan to diagnose the patient, a trucut biopsy was done to confirm the diagnosis of an adrenocortical carcinoma invading the liver; however, an incidental histopathologic finding of co-occurrence of a HCC in the same lesion raised our suspicions, so we went to do a positron emission tomography scan CAP to look for any focus of metastasis, which revealed negative results. Surgical resection is the gold standard option to manage both HCC and adrenocortical carcinoma [5]. The patient was followed up for 2 years after the operation without evidence of metastasis or recurrence.

CONFLICT OF INTEREST STATEMENT

None declared.

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