CASE REPORT

Metastatic acinar cell carcinoma of the liver from a benign-appearing pancreatic lesion: a mimic of hepatocellular carcinoma

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ABSTRACT. Acinar cell carcinoma (ACC) is a rare pancreatic tumour with a favourable prognosis compared with the more common ductal adenocarcinoma. The radiological findings of this tumour have been described in the literature; however, only limited data are available regarding the metastatic features of ACC of the liver, the most common metastatic site. We report a case of ACC of the pancreas with a hepatic metastasis from a benign-appearing malignant pancreatic lesion.

Received 10 August 2010
Revised 14 September 2010
Accepted 29 September 2010

DOI: 10.1259/bjr/26942051

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Acinar cell carcinoma (ACC) is a rare tumour accounting for approximately 1% of pancreatic exocrine neoplasms. It has a poor prognosis although reported survival is slightly better than for ductal carcinoma [1, 2]. Patients usually present with non-specific symptoms such as abdominal pain and weight loss. Hyperlipasaemia may manifest as a paraneoplastic syndrome [3]. ACC is grossly described as a large, well-circumscribed, lobulated tumour and haemorrhage and necrosis are often present [4, 5]. Although imaging findings of this tumour have been described in some reports, there are few reports which have focused on the radiological features of the metastatic pattern of ACC of the liver, the most common metastatic site.

Case report

A 57-year-old woman with a benign medical history presented to our hospital with pain and discomfort in the right upper quadrant abdominal area for several months. There were no abnormalities in liver function tests and the serum level of alpha-fetoprotein and CA19-9 were within the normal range. Dynamic CT scanning showed a 13.5 × 11.5 cm hypoattenuating mass containing a lower attenuating central portion in the right lobe of the liver on the non-enhanced phase. After administration of the contrast medium there was heterogeneous peripheral arterial phase enhancement and rapid wash-out on the portal venous phase (Figure 1a,b). These findings suggested a hypervascular hepatic tumour. In addition, there was a 1.2 cm hypoattenuating nodule with calcifications

in the head of the pancreas. The nodule was located on the anterior aspect of the pancreatic duct which showed no signs of compression. Contrast-enhanced CT scans showed mild enhancement of the tumour; the degree of enhancement was less intense than the normal surrounding pancreatic parenchyma (Figure 1c). On the portal venous phase, a subtle rim enhancement was noted (Figure 1d). The pancreatic nodule was interpreted as a complicated pseudocyst or a benign cystic neoplasm. The patient underwent a percutaneous liver biopsy which revealed neoplastic cells with acinar pattern. According to imaging findings and histological assessment, an ACC of the pancreas with a hepatic metastasis was suggested. Right hepatic lobectomy with a pylorus-preserving pancreaticoduodenectomy was performed. On the macroscopic examination, the hepatic lesion was a 13.0 × 12.5 cm well-defined, soft round mass containing a central haemorrhagic portion. The mass was confined to the hepatic parenchyma and abutted on the hepatic capsule (Figure 1e). The pancreatic lesion was a 1.4 × 1.3 cm well-defined, round mass in the pancreatic head with a 1 cm separation from the ampulla of Vater. The pancreatic lesion had a lobulated, fibrotic and haemorrhagic surface without ductal invasion (Figure 1f). Histological and immunohistochemical examinations confirmed an ACC of the pancreas with a hepatic metastasis.

Discussion

ACCs are rare tumours accounting for approximately 1% of pancreatic exocrine neoplasms; they have a lower malignant potency than ductal adenocarcinomas [1, 2]. Most ACCs occur between the fifth and seventh decades of life and the patient usually presents with symptoms related to a local mass effect or metastases [4]. In a multi-institutional study, despite the majority of ACCs

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Figure 1. A 57-year-old woman with acinar cell carcinoma. (a) The arterial phase CT image shows a large liver mass with a central necrotic portion and peripheral enhancement. (b) The early portal venous phase CT image shows rapid washout of the liver mass. (c) The arterial phase CT image shows a mild enhancement of a small nodule with calcifications in the head of the pancreas (arrow head). (d) The early portal venous phase CT image shows a subtle rim enhancement of a small nodule in the head of the pancreas (arrow head). (e) Photograph of a cut section of the right hepatic lobe shows a haemorrhagic centre containing a large mass. (f) Photograph of a cut section of the pancreas shows a well-defined small nodule with a fibrotic and hemorrhagic surface in the pancreatic head (arrow head).

being located in the head of the pancreas, the classic presentation of painless obstructive jaundice in these patients did not occur. In fact, patients primarily presented with abdominal pain and weight loss. In addition, the serum tumour marker CA19-9, which is commonly elevated in invasive ductal adenocarcinomas, was not elevated in any patients with ACCs [3]. ACCs are usually described as large hypovascular, well-margined,

frequently-encapsulated masses. ACCs do not typically produce ductal dilatation, are solid when small and contain cystic areas owing to necrosis when large [1, 4]. Pancreatic ductal adenocarcinoma does not characteristically calcify; however, a number of less common tumours have associated calcifications. Internal calcification is often present in ACCs [6]. The liver is the most common site of metastases. In a study of 28 cases of ACCs, liver

metastases were detected in 13 cases followed by 5 cases of regional lymph node metastases [7]. In that study, most of the pancreatic tumours were large, averaging 10.8 cm in diameter. In another study presenting the hepatic metastases of ACCs, most of the primary lesions were also large [8].

However, in our case the pancreatic lesion appeared as a small hypoattenuating nodule with calcifications. Thus, it was difficult to initially consider this small, benign-appearing nodule as the primary site of the large hepatic mass. We found a similar case report that presented with liver metastases from an occult ACC [9]. In that case, the primary pancreatic lesion was small and therefore remained undetected until surgical exploration. However, the pre-operative CT scan showed multiple cystic tumours in the liver, suggesting metastases.

Pancreatic cancer cells may secrete pancreatic enzymes that can occasionally circulate systemically and cause hyperlipasaemia, which may lead to diffuse subcutaneous nodules and polyarthropathies. This syndrome is known as lipase hypersecretion syndrome or metastatic fat necrosis. Subcutaneous nodules are generally widely distributed, erythematous and painful, and may be misinterpreted as erythema nodosum or as metastases [1–3]. In our case, although the patient was not fully evaluated for this paraneoplastic syndrome, she had been complaining about subcutaneous nodules in her lower extremities. She had been treated with aceclofenac in the Department of Dermatology in our institute for 6 months but the subcutaneous nodules were refractory to treatment.

Currently, most of the literature regarding ACCs focuses on the ACC itself, especially from a histopathological aspect. Although there are few data regarding liver metastases from ACCs, the imaging features of the liver lesion are not well described. In this report, we have

presented the CT characteristics of a hepatic metastasis of this uncommon type of pancreatic cancer, which may mimic a hepatocellular carcinoma. It is interesting that the primary lesion of this metastatic liver mass was a small, benign-appearing pancreatic nodule.

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