Acute abdominal pain in a patient with a history of ocular melanoma

Case scenario

A 72-year-old man, who has a history of right uveal melanoma treated with chemotherapy, presented with a sudden onset of generalised abdominal pain and hypovolaemic shock.

Physical examination revealed an epigastric mass in a tense abdomen. Haemoglobin level on admission was 127 g/L (reference range, 140-175 g/L). Serum amylase was normal, as were renal and liver functions. Hepatitis serology was unknown. After an erect chest X-ray taken on admission did not demonstrate any free gas under the diaphragm, ultrasonography and subsequent computed tomography (CT) were performed (Fig 1).

What is seen on the CT scan? What is the provisional diagnosis? What are the differential diagnoses?

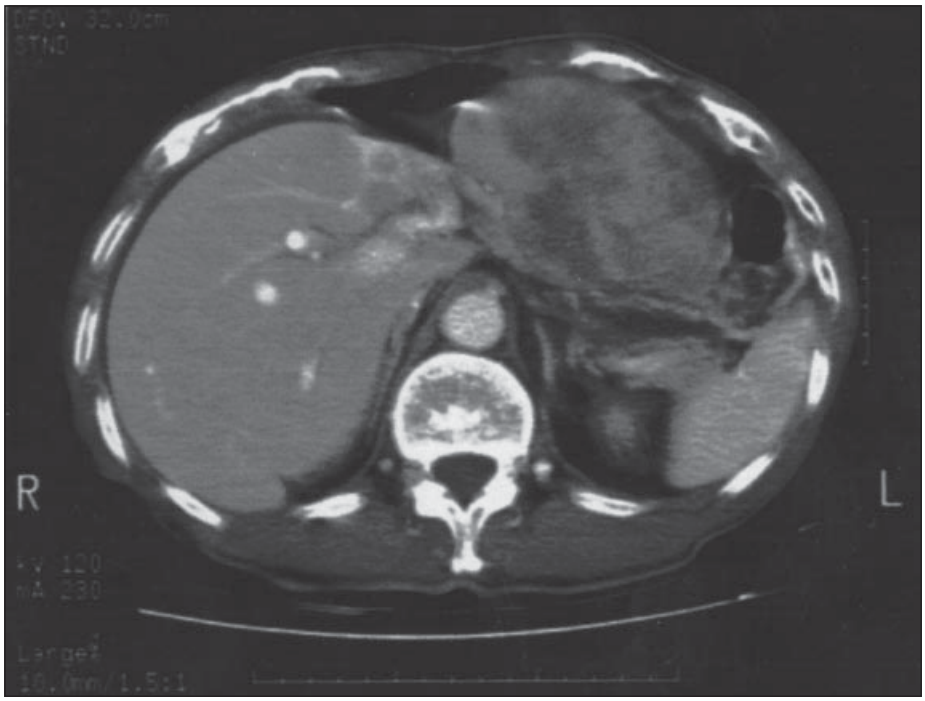

Fig 1. Abdominal computed tomographic scan of the patient

Comments

The CT scan reveals a tumour occupying the left lateral section of the liver, a location indicative of hepatocellular carcinoma (HCC). After admission, the patient's haemoglobin level gradually dropped to around 80 g/L. This, combined with the sudden onset of abdominal pain and shock, should lead to a suspicion of intratumoural bleeding or free peritoneal rupture of HCC. Differential diagnosis of the liver mass includes metastatic disease to the liver. In this patient, the uveal melanoma could be the primary tumour.

There was no radiological evidence of ruptured tumour or haemoperitoneum and, therefore, angiography and embolisation were not immediately considered. The patient was initially managed as a case of intratumoural bleeding and was stabilised with conservative treatment. Six days after admission, however, he developed a sudden increase in the severity of pain, and a repeated chest X-ray revealed free gas under the diaphragm. Emergency laparotomy revealed a 1.5-cm perforated chronic duodenal ulcer at the anterior wall of the first part of duodenum (Fig 2). A large pigmented tumour occupying the whole left lateral section and caudate lobe was noted, along with multiple minute blackish metastases scattered over the rest of the liver. The pigmentation was very suggestive of metastatic melanoma (Fig 3). Pyloroplasty was performed for the perforated ulcer. The left lateral section of the liver was removed in view of suspected haemorrhage into the tumour and a likelihood of rupture. Pathology of the resected liver confirmed metastatic malignant melanoma. The patient was discharged to convalescence in hospital and scheduled for rehabilitation on postoperative day 16. The patient died of terminal malignancy 5 months after the operation.

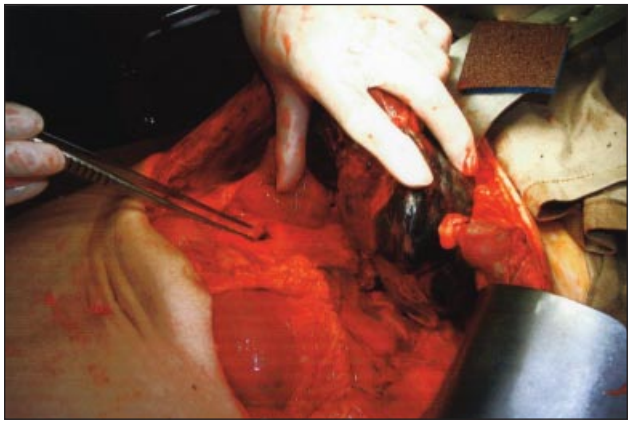

Fig 2. A perforated ulcer (tip of forceps) noted at the anterior wall of first part of duodenum

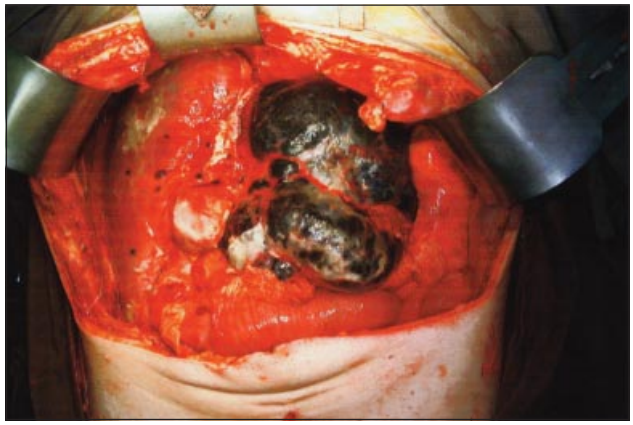

Fig 3. Metastatic melanoma replacing the whole left lateral section of the liver with multiple satellites over the rest of the liver. Note the typical black pigmentation of the lesions

Discussion

Despite being the most common primary intra-ocular malignancy in Caucasians, ocular melanoma is extremely rare in the Asian population. The liver is involved in more than 95% of patients who develop metastatic disease, and more than 40% of those who initially present with liver metastases.[1]

Metastatic hepatic melanoma is associated with a median survival range of 2 to 7 months; no standard treatment is available.[1] While surgical treatment has a place in the management of solitary liver metastases, it is confined to a selected minority of patients with focal hepatic disease and no extrahepatic spread.[2] The grave prognosis associated with liver metastasis has led to the evaluation of new therapeutic modalities, including regional therapies such as intrahepatic arterial chemotherapy or chemoembolisation, regional immunotherapy, isolated hepatic perfusion, and percutaneous hepatic perfusion.[1] However, all of these have demonstrated minimal efficacy, and the overall survival has been disappointingly short. More recently, radiofrequency ablation has been investigated as an option for HCC and liver metastasis, and its efficacy on metastatic liver melanoma deserves further evaluation.[3]

Although ruptured HCC is common in the Far East, spontaneous rupture of liver metastasis is remarkably rare. Two cases of ruptured metastatic cutaneous liver melanoma have been reported, and both were treated

with liver resection.[4,5] The authors advocated hepatic resection for a bleeding or ruptured metastasis of malignant melanoma in view of the improved survival, even in patients with disseminated disease.[4] Transarterial chemoembolisation has also been increasingly applied in the treatment of bleeding hepatic tumours. The optimal treatment for ruptured metastatic liver melanoma remains uncertain due to its rare occurrence.

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