Gut, 1990, **31**, 1333–1334

Squamous carcinoma in the liver

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Abstract

Squamous carcinoma of the liver has only rarely been reported. We present a case which highlights not only the difficulties in diagnosis but also how it can closely mimic sclerosing cholangitis.

Case history

A 73 year old man presented with a three week history of obstructive jaundice. On examination there was no hepatosplenomegaly or lymphadenopathy and no signs of chronic liver disease. Liver function tests confirmed cholestasis – mean (range) bilirubin 104 μmol/l (0–17), aspartate aminotransferase 185 IU/l (5–45), alkaline phosphatase 456 IU/l (30–115), and albumin 43 g/l (35–50). These had been normal three months earlier before routine herniorrhaphy.

Ten years before he had an attack of cholecystitis but declined cholecystectomy as he had no further symptoms. Six years before he developed diarrhoea while on holiday in Turkey. Although subsequent stool cultures showed no pathogens, a rectal biopsy specimen suggested an infective colitis and his symptoms resolved completely.

Abdominal ultrasound showed multiple gall bladder stones and slight dilatation of the intrahepatic ducts but not of the common bile duct. The endoscopic retrograde cholangiopancreatographic findings were of a normal papilla, an isolated ventral pancreas, normal distal common bile duct and multiple gall bladder calculi. There was a long tight stricture of the common hepatic duct, and there were multiple areas of narrowing in the intrahepatic biliary tree. The appearances were highly suggestive of sclerosing cholangitis, although a diffuse cholangiocarcinoma was also considered. Brush cytology of the stricture showed no malignant cells, and a computed tomogram no evidence of an hepatic portal mass. Sigmoidoscopy and rectal biopsy specimen were normal.

The patient was managed conservatively and over the following year his liver function tests fluctuated and temporarily improved after treatment with prednisolone, ursodeoxycholic acid, and antibiotics. Fourteen months after presentation, his jaundice deteriorated with noticeable lethargy. Repeat endoscopic retrograde cholangiopancreatography showed dilatation of the intrahepatic ducts with stricturing at their confluence and that the common hepatic duct stricture had become tighter and longer suggesting a cholangiocarcinoma (Fig 1). The stricture was stented endoscopically, but after initial improvement the patient's liver and renal function deteriorated and he died.

At necropsy all the abnormalities were centred on the liver, which was green with a finely nodular surface. A 5 cm pale tumour at the porta hepatis surrounded and infiltrated the left and right hepatic ducts. Two smaller tumour nodules were macroscopically separate from the main tumour mass. The common hepatic duct looked normal but it was compressed by enlarged porta hepatis lymph nodes. There were three faceted stones in the gall bladder. Tumour deposits due to direct spread were present in the gall bladder serosa, right renal capsule, greater omentum, and mesentery. No tumour was found elsewhere in the body.

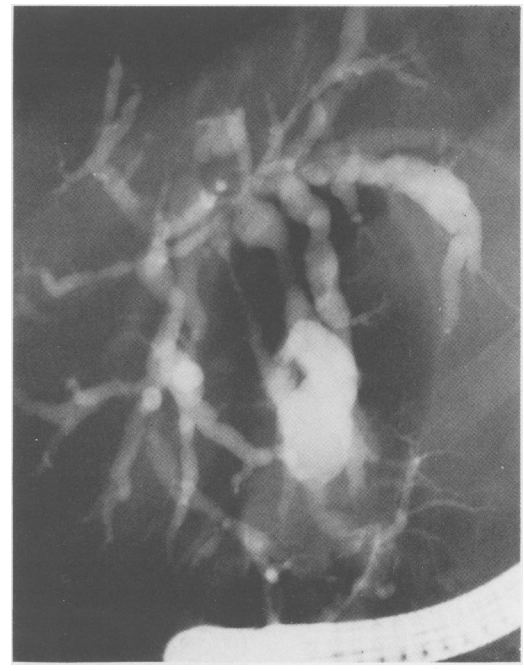

Figure 1: Repeat endoscopic retrograde cholangiopancreatography 14 months after presentation showing dilatation of the intrahepatic ducts with stricturing at their confluence and of the common bile duct suggestive of a cholangiocarcinoma.

Histological examination showed a predominantly well differentiated keratinising squamous cell carcinoma in which there were numerous keratin whorls and individual dyskeratotic cells (Fig 2). Staining with alcian blue and periodic acid Schiff after diastase pretreatment did not show any mucin production. A small tumour focus was present in the wall of a major bile duct but no squamous metaplasia or premalignant dysplasia were found in the duct epithelium which remained after autolysis. The background liver showed cholestasis, fibrosis, and bile duct proliferation consistent with biliary obstruction. There were no characteristic lesions of sclerosing cholangitis and no von Myenberg complexes or other congenital abnormalities were present.

Discussion

Primary squamous carcinoma of the liver is a rare tumour, only nine cases have been reported. Seven of these arose in congenital biliary cystic lesions,[1–4] one in a teratoma, and one occurred in

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Accepted for publication
2 February 1990

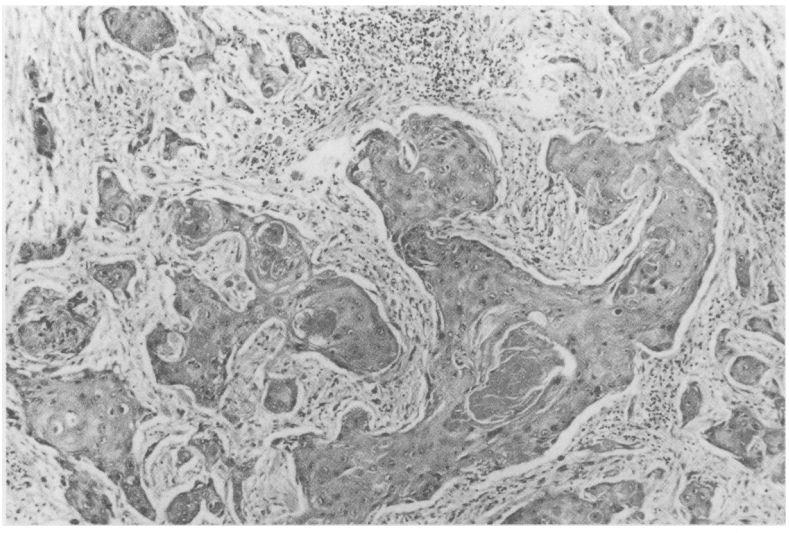

Figure 2: Irregular islands of infiltrating squamous carcinoma with central keratinisation and individual cell dyskeratosis. (Haematoxylin and eosin original magnification ×25.)

an architecturally normal liver, but with gross intrahepatic cholesterol stones.[5]

This patient is only the second reported example of hepatic squamous carcinoma with no apparent pre-existing biliary lesion apart from the gall bladder stones.

Biliary carcinoma has been associated with several conditions including gall stones,[6] ulcerative colitis,[7 8] primary sclerosing cholangitis,[9] and thorotrast administration.[10] However, in all these the biliary tumour has been the common type of adenocarcinoma. Most tumours in biliary cystic lesions are also adenocarcinomas.[11-15] Three patients with mucoepidermoid carcinoma have been described in association with *Clonorchis sinensis* in the biliary tree.[16]

Squamous carcinomas are associated with congenital biliary cystic dilatation, and benign squamous metaplasia has been described in the background cyst wall. Sluggish biliary flow and infection are proposed as possible aetiologies.[12 17] In our patient there was no underlying pathology, although intermittent biliary obstruction or infection from the gall stones cannot be excluded. At necropsy there was no histological evidence of sclerosing cholangitis to suggest that this tumour arose as a complication, and the normal liver function tests three months before presentation also mitigate against a diagnosis of pre-existing sclerosing cholangitis.

Differentiating biliary strictures due to sclerosing cholangitis from tumours can be difficult as this patient shows. The radiological appearances can be similar; the aetiology of the intrahepatic changes seen here on the first cholangiogram is unclear. The clinical management in an elderly patient is similar for either condition as curative surgery is not possible and endoscopic stenting of tight dominant strictures is only undertaken when the jaundice and symptoms are appreciable.

This patient shows that a squamous tumour of the liver can mimic sclerosing cholangitis with fluctuating liver function tests and slow deterioration. Squamous carcinoma of the liver should be considered in the differential diagnosis of biliary strictures, although establishing the diagnosis can be difficult and may only be confirmed at necropsy.

We are grateful to Dr G T Williams for his advice and for reviewing the histology.

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