

ATROPHY OF LEFT LOBE OF THE LIVER ASSOCIATED WITH HEPATOLITHIASIS AND CHOLANGIOCARCINOMA

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ABSTRACT

A case of liver atrophy associated with hepatolithiasis and cholangiocarcinoma is presented. Intraductal calculus and left hepatic lobar atrophy were seen on both ultrasound and computerised tomography examinations. The lobar atrophy was accompanied by hypoplasia of left common hepatic artery. Cholangiocarcinoma was diagnosed on histology.

There have been several reported cases of hepatolithiasis and cholangiocarcinoma (1-4). To our knowledge, there has been only one reported case of hepatolithiasis and cholangiocarcinoma with liver atrophy (Nishihara K et al 1986) but this was not angiographically demonstrated.

Keywords: liver atrophy, hepatolithiasis, cholangiocarcinoma

SING MED J. 1989; NO 30: 607-608

INTRODUCTION

Atrophy of a lobe or segment of the liver may result from portal venous obstruction, biliary obstruction or both. Biliary obstruction may occur with cholangiocarcinoma, Asiatic cholangitis or subsequent to surgery at the hilus. In hilar malignancy and Asiatic cholangitis, atrophy more commonly affects the left lobe but there is less predilection for this particular lobe with hilar surgery (5).

CASE REPORT

A 66-year-old Chinese lady presented with a 4-year history of epigastric pain associated with nausea, loss of appetite and loss of weight. There was no history of fever or jaundice and no abnormality was found on physical examination.

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Ultrasound study of the abdomen revealed a small left hepatic lobe with dilated intrahepatic ducts. A large calculus was seen in the region of the left common hepatic duct. There were no gallstones. Common bile duct was normal in size. The right lobe of the liver was normal. An endoscopic retrograde cholangiopancreatography was then carried out which demonstrated a blocked left intrahepatic ductal system.

Computerised tomography confirmed the ultrasound findings of intrahepatic calculus, dilated left intrahepatic ducts and left hepatic lobar atrophy (Fig. 1). Hepatic angiography showed a small, left common hepatic artery (Fig. 2).

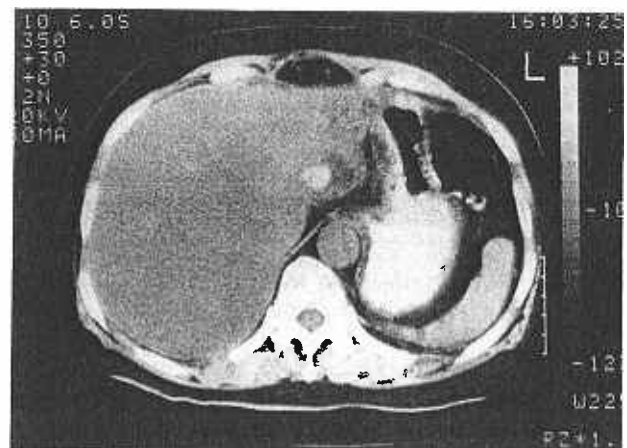


Fig 1: Computerised tomography showing a calculus in the region of left common hepatic duct (arrow) with dilated intrahepatic ducts and atrophy of left lobe of the liver.

On surgical exploration, the left lobe of the liver was found to be small, hard and fibrotic. It was adherent to the diaphragm, lesser curve of the stomach and anterior abdominal wall.

The left intrahepatic ducts were grossly dilated and filled with mucus and pus. There was a solitary calculus in the left common hepatic duct.

Escherichia-coli was cultured from the bile collected. Biopsy specimen from the left lobe of the liver

showed canalicular cholestasis, mild to moderate portal and periportal inflammation with periportal hepatocellular necrosis. There was, in addition mild Kupffer cell hyperplasia. Fragments of biopsy material from the bile

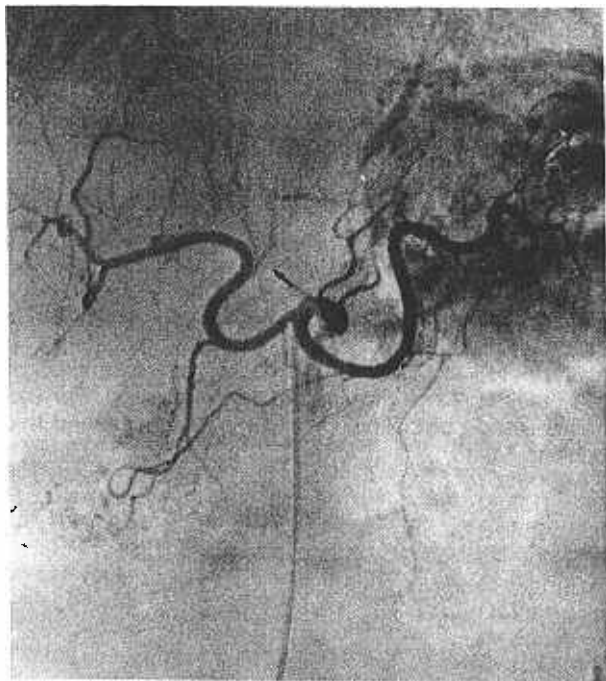


Fig 2: Coeliac angiography showing a hypoplastic left common hepatic artery (arrow).

DISCUSSION

Hepatoolithiasis is not an uncommon condition especially in East Asia (4). The most important causative factors are bile stasis and bacterial infection of bile duct (6). Development of carcinoma is believed to be related to an intrahepatic calculus cholangitis with marked papillomatous and glandular proliferation and pericholangitis (7). However, it was subsequently reported that slow flowing bile may, over a significant period of time,

duct showed striking adenomatosis of the overlying biliary epithelium with focal areas of dysplasia. Malignant transformation had occurred. Cholangiocarcinoma originating from the overlying dysplastic epithelium (Fig. 3) had infiltrated the duct transmurally and extended up into the left hepatic lobe inciting a profuse desmoplastic reaction.

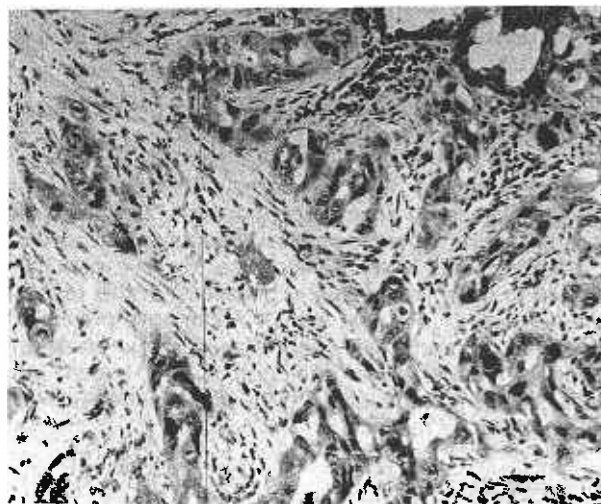


Fig 3: Histopathological section through bile duct showing dysplastic epithelium. Tumor cells are streaming into the underlying epithelium. Note the desmoplastic reaction.

irritate the lining epithelium of bile ducts causing cancer (8). Nakanuma et al (9) postulated that in chronic proliferative cholangitis, stone erosion causes repeated ulceration and subsequent repair of ductular lining and underlying glandular epithelium resulting in atypical hyperplasia and cholangiocarcinoma.

Left lobar atrophy in conjunction with cholangiocarcinoma has been suggested to be due to chronic obstruction of the biliary ducts (10). We postulate that the hypoplasia of the left common hepatic artery noted in this case is secondary to the left lobar atrophy.

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