

Concurrent detection of cholecystocolic fistula and hepatic abscess by hepatobiliary scintigraphy

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We report the case of a 58-year-old male with cholecystocolic fistula and hepatic abscess that were not diagnosed by routine radiologic examinations, but concurrently detected by hepatobiliary scintigraphy with ^{99m}Tc -PMT, and confirmed at operation. Hepatobiliary scintigraphy is noninvasive and useful in the detection of a biliary enteric fistula and lesions about related organs. Concurrent detection of cholecystocolic fistula and hepatic abscess on hepatobiliary series is of great clinical value in planning surgical intervention.

Key words: hepatobiliary scintigraphy, technetium-99m-PMT, cholecystocolic fistula, hepatic abscess

INTRODUCTION

BILIARY ENTERIC FISTULAS are usually sequelae or complications of long-standing calcareous biliary tract disease.¹ Preoperative diagnosis of these fistulas by routine radiologic examinations is difficult and has often presented a dilemma to the physician.² Radionuclide hepatobiliary study is noninvasive and provides useful information about the dynamics of bile flow through the liver, gallbladder, biliary tract and intestines. At the present time, hepatobiliary scintigraphy has gained considerable popularity in the evaluation of patients with suspected cholecystitis, biliary leakage and biliary enteric fistula.³⁻⁷

The purpose of this report is to describe the coexistence of cholecystocolic fistula and hepatic abscess which were not diagnosed by routine radiologic examinations, but concurrently detected by hepatobiliary scintigraphy, and confirmed at operation.

CASE REPORT

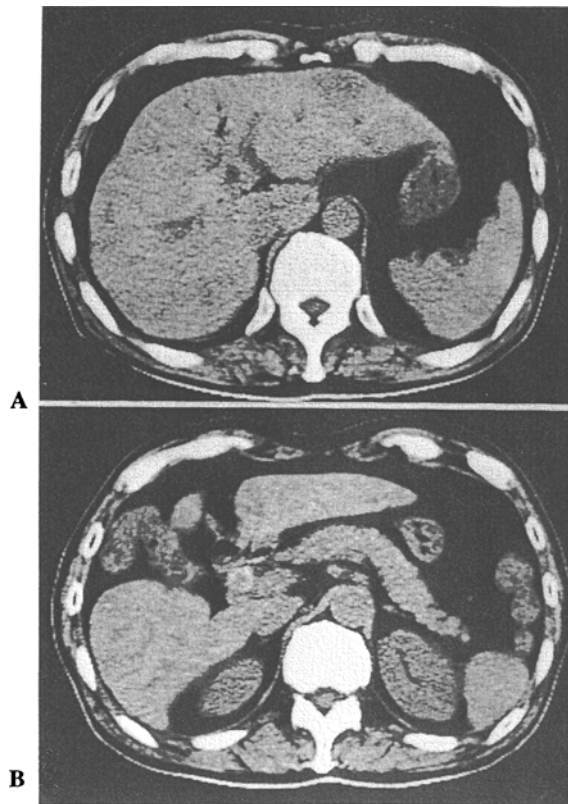
A 58-year-old man was referred to our hospital with a two-month history of right upper quadrant pain and jaundice. Previous evaluation at another hospital revealed

abnormal liver function tests. An upper gastrointestinal series was unremarkable and the gallbladder was not visualized on intravenous cholangiogram. Abdominal sonography failed to reveal any abnormality. Physical examination results on admission were within normal limits except for some vague right upper quadrant tenderness. Laboratory tests revealed an increased leukocyte count of 10,500/cu mm and abnormal liver and pancreas function tests: γ GPT, 78 IU, alkaline phosphatase, 12.2 KAU, total bilirubin, 1.58 mg/ml, amylase, 115 SU, and elastase 7,950 ng/dl. Tumor markers were also increased: CEA, 4.1 ng/ml and CA19-9, 137.0 U/ml. Plain CT revealed air in the intrahepatic biliary trees and a large stone in the common bile duct. Moreover, the gallbladder was not identified well and an ill-defined area of low density in the hepatic left lobe was strongly suspected (Fig. 1). However, at first, a gastroenterologist failed to point out a hepatic SOL. An ERCP study revealed multiple stones in the common bile duct, but failed to demonstrate the intrahepatic biliary tract (Fig. 2). A biliary enteric fistula was suspected from these findings.

Hepatobiliary scintigraphy with Tc-99m pyridoxyl-5-methyl triptophan (PMT) demonstrated a cold lesion in the hepatic left lobe and a fistula between the gallbladder and hepatic flexure of the colon (Fig. 3). The cold lesion in the left lobe was thought to be an abscess secondary to ascending cholangitis, because the lesion was more prominent than that on the CT scan. The patient underwent an operation. The presence of a cholecystocolic fistula and abscess in the hepatic left lobe was confirmed, but no superimposed malignant tumor was detected.

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◀ **Fig. 1** Plain CT reveals air in the intrahepatic biliary tree (A) and a large stone in the common bile duct (B). Gallbladder is not identified well and hepatic flexure of the colon is noted between the hepatic right and left lobes. Moreover, an ill-defined area of low density in the hepatic left lobe is strongly suspected.

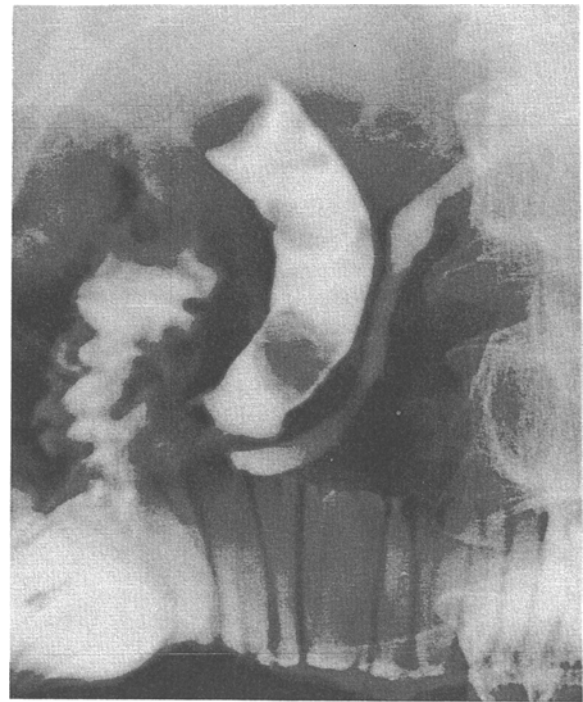


Fig. 2 ERCP shows large stones in the common bile duct.

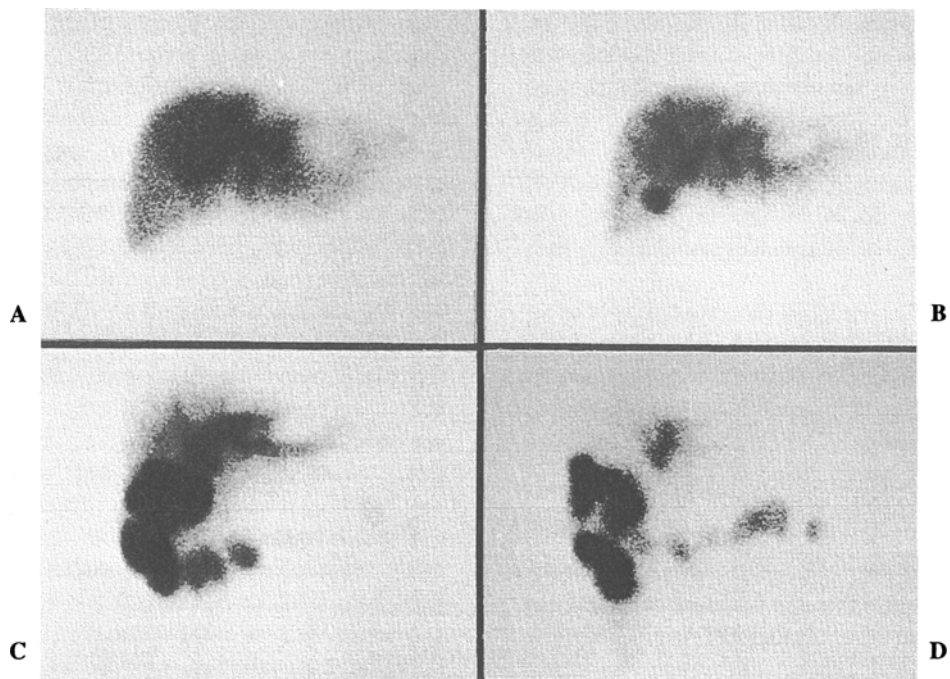


Fig. 3 Hepatobiliary scintigrams with ^{99m}Tc -PMT. A well-demarcated cold lesion is noted in the hepatic left lobe at 15 min, which is more prominent than CT (A). A focal accumulation of the tracer at the site of gallbladder is seen at 45 min (B). Filling of the tracer into the hepatic flexure of the colon is observed, but no activity is noted in the small intestine at 120 min (C). Most of the tracer is noted in the hepatic flexure and transverse colon at 140 min (D).

DISCUSSION

In biliary enteric fistulas a cholecystocolic route is the second most common after a cholecystoduodenal one,² but its preoperative diagnosis is sometimes very difficult with routine diagnostic imaging methods.^{2,6} Ascending cholangitis is most frequently seen in biliary colic fistulas. Hepatic abscess is therefore encountered more often in this type of fistula.^{2,8}

In our case, an upper gastrointestinal series failed to detect the route of the biliary enteric fistula. Plain CT revealed air in the intrahepatic biliary trees and a large stone in the common bile duct, but failed to depict a hepatic SOL clearly (Fig. 2). A biliary enteric fistula was suspected from the radiologic and clinical findings. Hepatobiliary scintigraphy was then performed. A cholecystocolic fistula was clearly detected. Moreover, a large cold lesion in the hepatic left lobe was seen, although plain CT revealed a small ill-defined area of low density in the same region. The coexistence of cholecystocolic fistula and hepatic abscess was therefore diagnosed, and confirmed at operation.

Hepatobiliary scintigraphy is noninvasive and useful in the detection of biliary enteric fistula and lesions about related organs.⁸⁻¹⁰ Concurrent detection of cholecystocolic fistula and hepatic abscess as in our case provides valuable information when planning further surgical intervention.

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