

# Hepatic Microabscess with Ascending Cholangitis Complicated by Endoscopic Retrograde Cholangiopancreatogram (ERCP) : A Case Report<sup>1</sup>

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Complicated hepatic microabscess secondary to ascending cholangitis following ERCP (Endoscopic retrograde cholangiopancreatogram) is rare, and needs to be differentiated from other microabscesses, metastasis or Caroli's disease. We experienced a case of hepatic microabscess associated with septic cholangitis following ERCP. Cholangiogram showed multiple sac-like abscess pockets with characteristic biliary communication, and CT scan revealed multiple low attenuated lesions. At the resolving stage of cholangitic microabscess, CT scan showed partial rim enhancement of the abscesses and disproportional dilatation of intrahepatic ducts. The residual parenchymal enhancement surrounding the resolved microabscess pockets and dilated biliary ducts, however, remained even after clinical recovery.

**Index Words** : ERCP, Cholangitis, Hepatic microabscess

## INTRODUCTION

Hepatic microabscess secondary to ascending cholangitis is rare. Most microabscesses are hematogenous in origin either from fungal or tuberculous infection in immunocompromised patients. Ascending microabscess following percutaneous transhepatic drainage have been reported in the literature [1, 2]. These iatrogenic retrograde abscesses have a high mortality rate with progression to sepsis which mandates prompt medical or surgical management. The procedure of ERCP has a chance of ascending cholangitis; however, hepatic microabscess resulting from retrograde cholangitis brought on by the procedure has not been reported to date. We report a case of hepatic microabscess associated with septic cholangitis following ERCP and discuss its radiologic features.

## CASE REPORT

A 41-year-old man with severe abdominal pain and fever was transferred to our hospital. A known alcoholic, the patient previously had multiple episodes of acute pancreatitis which were alleviated conservatively each

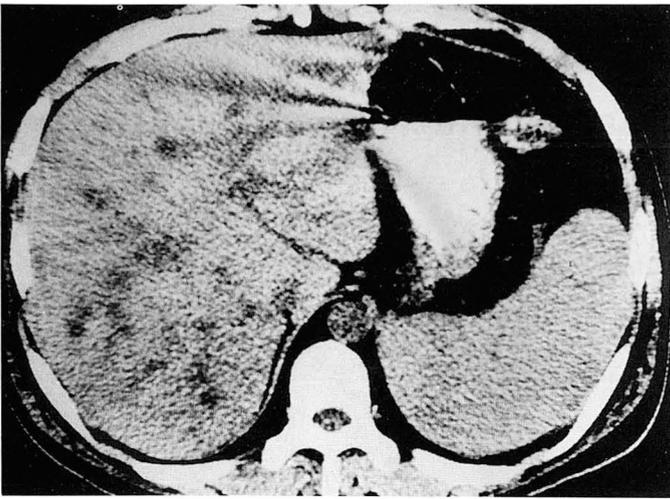
time. Four weeks earlier, during admission at a local hospital with abdominal pain and a low grade fever, abdominal CT scan and ERCP were taken. CT scan showed the features of acute pancreatitis, i. e., irregular fat infiltration of peripancreatic and left anterior pararenal space. ERCP did not reveal any abnormality. Two hours after ERCP, abdominal pain, fever and nausea were acutely aggravated. These symptoms were not improve for the following two weeks, but were compounded by jaundice. A follow-up CT scan obtained three weeks after ERCP showed some new findings, i. e., the multiple small low attenuated lesions scattered throughout the liver (Fig. 1a).

When the patient was transferred to our hospital, approximately four weeks after ERCP, laboratory examination showed white blood cell count  $17.2 \times 10^3/\text{ul}$ , serum alkaline phosphatase 2,515 IU/L and total bilirubin 10.1 mg/dl, and normal aminotransaminase. New intravenous antibiotics were started. Six weeks after ERCP, a follow up ERCP showed multiple small abscess pockets communicating with the peripheral intrahepatic ducts, and abscess debris in common hepatic duct (Fig. 1b). Eight weeks after the initial ERCP, a postcontrast abdominal CT scan revealed multiple microabscesses with partial rim enhancement and disproportional dilatation of intrahepatic ducts (Fig. 1c). The patient gradually improved. The patient was discharged when all laboratory values returned to normal. Two months later, the enhanced abdominal CT scan still showed patch parenchymal enhancement surrounding the resolved microabscesses and slightly

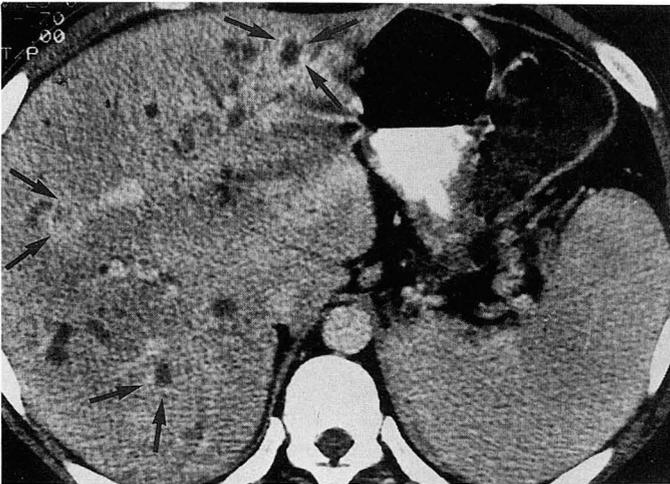
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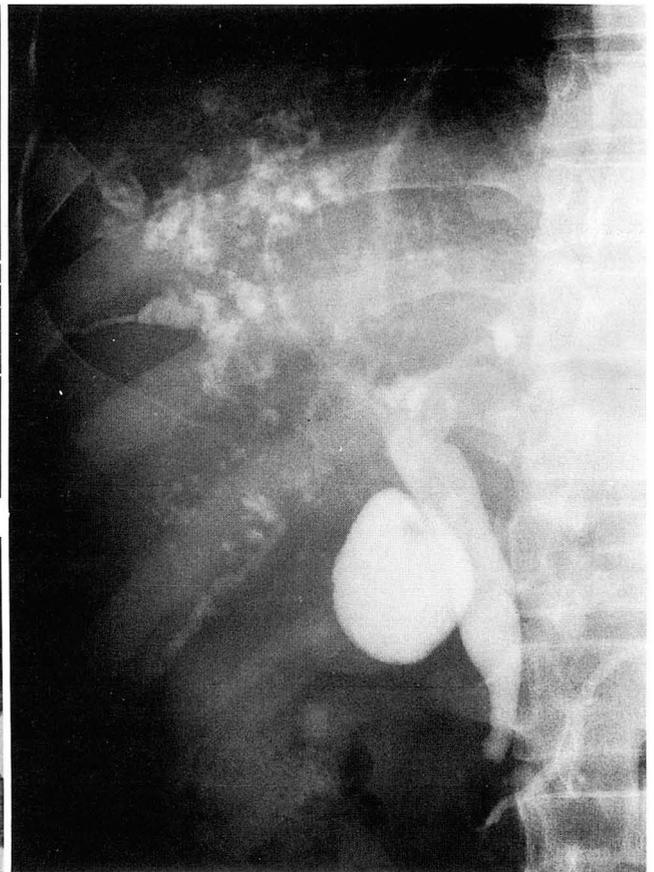
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a



c



b

**Fig. 1.** a. Three weeks after ERCP, abdominal CT scan reveals multiple small low attenuated microabscesses scattered throughout the liver.

b. Cholangiogram demonstrates multiple abscess pockets communicating with dilated intrahepatic ducts.

c. Eight weeks after initial ERCP, contrast enhanced abdominal CT scan shows rim enhancement of microabscesses (arrows) and disproportional dilatation of left intrahepatic ducts.

dilated intrahepatic ducts.

## DISCUSSION

The previously reported complications following ERCP included acute pancreatitis, biliary and duodenal perforation, retroperitoneal dissection of air, pneumoperitoneum, retroperitoneal abscess [3, 4]. After diagnostic ERCP, the incidence of acute cholangitis and biliary sepsis was reported as 7 and 2.5 percent, respectively [5, 6]. These complications, as have been thought, may be predisposed by residual biliary sepsis, biliary ductal obstruction, or forceful injection of hyperosmolar contrast media [5]. Once an ascending cholangitis is suspected, prompt antibiotic therapy should be started along with endoscopic or radiologic decompression.

CT findings of cholangitic microabscesses are non-specific. The precontrast scan usually shows multiple

low attenuated lesions in the liver. Hematogenously spread lesions such as pyogenic, tuberculous, fungal microabscess and cancer metastasis share a similar feature with cholangitic microabscesses, but usually lack communication with bile ducts. Thus, cholangiogram showing multiple sac-like abscess cavities with biliary communication may be helpful in differential diagnosis from other low attenuated CT lesions. A history of immunocompromise or primary malignancy makes this differentiation easier. Caroli's disease is characterized by communicating cavernous ectasia of biliary ducts, usually revealing multiple low attenuated lesions on CT scans. However, this disease shows the typical portal radicals with a central dot-like enhancement in the dilated bile ducts [7]. Clinically resolving cholangitic microabscess in this case correlated with partial rim enhancement of the abscesses and disproportional dilatation of intrahepatic ducts on CT, which suggested postinflammatory biliary stricture. How-

ever, the residual parenchymal enhancement around the resolved microabscess cavities and dilated bile ducts remained even after complete clinical recovery of the patient.

Ascending cholangitic microabscess is a rare but possible complication following ERCP. The Cholangiogram is likely to demonstrate characteristic biliary communication with microabscesses. A contrast enhanced CT scan appears useful for evaluation of parenchymal change surrounding the resolving abscesses, and residual biliary dilatation.

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## ERCP후 합병된 상행성 담도염에 의한 미세간농양:1예 보고

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ERCP후 급성 췌장염, 담도나 십이지장 천공, 후복막강 농양등의 합병증은 잘 알려져 있으나 상행성 담도염 (ascending cholangitis)에 의한 미세간농양의 형성과 그에 따른 패혈증의 경우는 매우 드물다. 저자들은 ERCP의 합병증으로 미세간농양 (hepatic microabscess)을 형성한 1예의 담관조영술과 CT 소견을 보고하고자 한다.

담관조영상 간내 담관을 통해 들어간 조영제가 농양강(abscess cavities)을 채우는 특징적인 소견이 있었다. 복부 CT에서 간실질내 산재하는 다수의 저음영과 불균등한 간내담관 확장이 동반되었고, 임상 증상의 회복과 함께 미세간농양은 사라졌으나 주변의 불규칙한 조영증강과 담관확장 소견은 늦게까지 남아 있었다.

## 1994년도 국제 학술대회 일정표 [ II ]

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