



CASE REPORT

Multiple pyogenic liver abscess

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Abstract

Multiple pyogenic liver abscesses have been rarely described. We report a fatal case of multiple pyogenic liver abscesses affecting a 38-year-old woman requiring surgical drainage. Evolution was marked by occurrence of a septic shock with multi-organ system failure. The patient died 48 h after surgery. Causes, therapeutics and outcome of the disease are discussed.

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Key words: Liver abscess; Septic shock; Outcome

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INTRODUCTION

The mortality rate of pyogenic liver abscess is 11%-31%^[1]. The overall mortality is high in patients with multiple liver abscesses^[2]. However, multiple pyogenic liver abscesses are not frequently reported in the literature. We report a fatal case of multiple and gigantic liver abscess affecting a 38-year-old woman.

CASE REPORT

A 38-year-old woman was admitted to our hospital for abdominal pain in the right upper quadrant, fever, vomiting and anorexia as well as chills and jaundice. On examination she had marked tenderness in the right upper quadrant. The temperature was 40.1 °C, the pulse was 119, and the respiratory rate was 30/min. The blood pressure was 80/30 mmHg. The patient did not drink alcohol.

Laboratory tests performed on admission revealed 41.5% hematocrit, 26 300 white-cell count (per mm³), 62 000 platelet count (per mm³), 30% prothrombin time, 269 µmol/L total bilirubin, 170 µmol/L conjugated bilirubin, 11 mmol/L urea nitrogen, 42 µmol/L creatinine, 4.5 mmol/L glucose, 117 mmol/L sodium, 4 mmol/L potassium, 87 mmol/L chloride, 16 mmol/L carbon dioxide, 51 U/L aspartate aminotransferase, 21 U/L alanine aminotransferase and 208 U/L creatine kinase.

Ultrasonography of the abdomen revealed that the hepatic parenchyma appeared diffusely heterogeneous, with hypoechoic foci in the right lobe, suggesting the presence of abscess or multiple hydatid cysts.

CT scan of the abdomen (Figures 1A-B) before and after intravenous injection of contrast material confirmed the presence of multiple irregular abscesses varying in size, predominantly in the right lobe of the liver.

Microbiological culture was performed (hemoculture) and the patient received intravenously cefotaxime, gentamicin, metronidazole, omeprazole, fluid, and electrolytes. Surgical drainage was performed 48 h after hospital admission. *Escherichia coli*, *Bacteroides fragilis* and *prevotella oralis* were found in cultures of the pus.

Evolution was marked by occurrence of septic shock with multi-organ system failure. The patient died 48 h after surgery.

DISCUSSION

Pyogenic liver abscesses are found in 0.3%-1.4% of autopsies^[3]. Patients with diabetes mellitus, immune deficiency, sickle cell anemia, malignancy, and liver transplants are at a greater risk for developing liver abscess^[1]. The majority of pyogenic liver abscesses are caused by infection originating in the biliary or intestinal tracts^[4]. About 10% of pyogenic liver abscesses develop as a result of bacteria entering the liver via the hepatic artery^[5]. In the majority of cases, more than one organism has been isolated from their abscesses^[6]. The most commonly infecting organisms are Gram-negative aerobes and *Escherichia coli* is the most frequently encountered^[7]. In our case three organisms were identified, suggesting that pyogenic liver abscesses are caused by infection originating in the intestinal tract. Without appropriate diagnosis and treatment, pyogenic liver abscesses are almost uniformly fatal^[2,4]. Early diagnosis as well as treatment with appropriate antibiotics and selective drainage can substantially reduce mortality. Our observation has confirmed this hypothesis.

Antibiotic therapy should include penicillin, which is

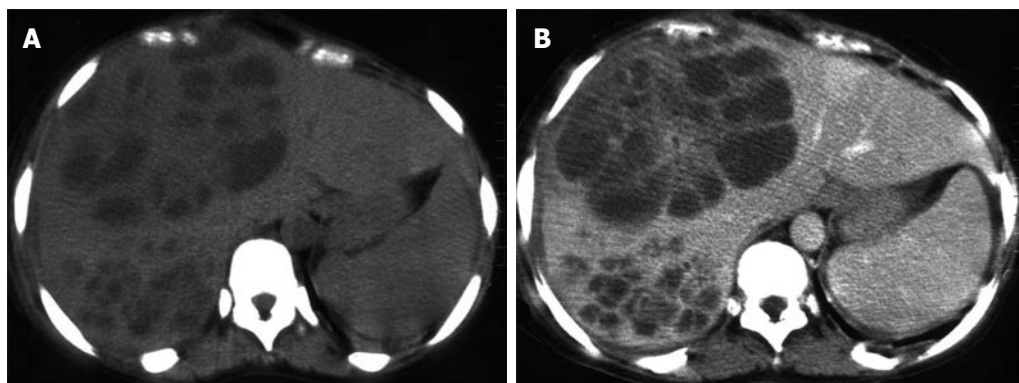


Figure 1 CT scan without (A) and with (B) contrast injection of the abdomen showing multiple irregular liver abscesses in the right hepatic lobe.

effective against *E coli*, *K pneumonia*, *bacteroides*, *enterococcus*, and *anaerobic streptococci*^[1]. Antibiotics alone are effective for only a few patients and most patients require percutaneous aspiration or catheter drainage guided by ultrasonography or computed tomography^[1]. In our case open surgery was performed because the patient suffered from multiple liver abscesses and septic shock.

The overall mortality may be as high as 30%-40% in patients with multiple liver abscesses, malignant biliary obstruction, inadequate drainage, and immunodeficiency^[1,2]. In our case no pathological antecedent was found, however we cannot exclude immunodeficiency in this woman.

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