ERCP and diagnosis of unexplained hyperbilirubinaemia

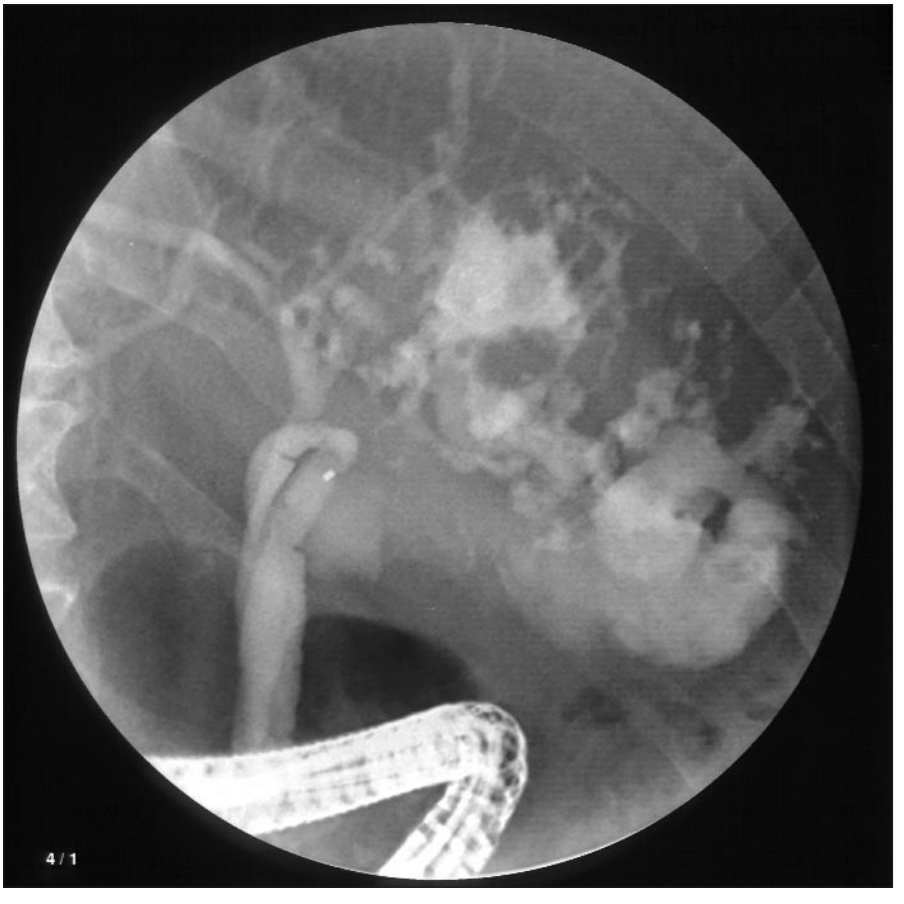
Sir,

A 72-year-old man presented with a 2-day history of malaise, rigors, shortness of breath, delirium and a dry cough. He was dehydrated, pyrexial (39°C), tachypnoeic and jaundiced. He had bibasal crepitations and right upper quadrant tenderness with mild hepatomegaly. Blood tests showed him to be anaemic with mild neutrophilia, lymphopenia, hyponatraemia and raised urea and creatinine. His bilirubin was 65 (<17 μmol/litre). Chest radiograph showed basal reticulonodular shadowing. A preliminary diagnosis of *Legionella* pneumonia was made and antibiotics were commenced.

Ultrasonographic examination of the abdomen revealed hyperechogenicity of the gall bladder but a normal common bile duct. An abdominal computed tomograph revealed a distended gall bladder with thick biliary fluid and hepatic abscess. As his electrolytes and liver function continued to deteriorate an endoscopic retrograde cholangiopancreatography (ERCP) was arranged (*Figure 1*). A presumed diagnosis of a perforated gall bladder communicating with an abscess cavity was made on the ERCP.

Surgical examination revealed no signs of peritonism apart from some mild tenderness in the right upper quadrant. The patient underwent a laparotomy where a perforated gall bladder was found and a retrograde cholecystectomy performed. He then required prolonged care on the intensive care unit as a result of cardiovascular and respiratory problems and died 5 months after admission from multiorgan failure.

Figure 1. Endoscopic retrograde cholangiopancreatography of the patient showing contrast leaking out of the biliary structures into the abdomen.



Spontaneous gall bladder perforation is uncommon but can affect up to 12% of patients with acute cholecystitis (Ong et al, 1991). The patients are typically diagnosed with cholecystitis and a perforation is diagnosed late or only at laparotomy. Worsening hyperbilirubinaemia is a feature of a perforated gall bladder as seen in this case and others (Schiano et al, 1992). Gall bladder perforation has a high morbidity and mortality. The commonly used investigations include ultrasound, hepatobiliary scintigraphy, computed tomography and magnetic resonance imaging. However, none of these modalities are diagnostic for acute perforation of the gall bladder.

ERCP is not routinely used for diagnosis. The authors chose to use ERCP because of the high probability of biliary pathology being the cause of the problem. The perforation was clearly demonstrated. This is the first time, to the best of the authors' knowledge, where a diagnosis of acute gall bladder perforation has been made using ERCP as a diagnostic modality. In equivocal cases where the cause of the patient's symptoms cannot be differentiated between acute cholecystitis or gall bladder perforation an ERCP may be helpful to facilitate diagnosis and allow early treatment.

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Schiano TD, Marini C, Gerard PS, Spatoliatore GL (1992) Gallbladder perforation presenting as significant hyperbilirubinemia. *Am J Gastroenterol* **87:** 1686–7