**Case Report**

**Hepatocellular Carcinoma Presenting with Obstructive Jaundice and Malignant Hemobilia**

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**Abstract**

In this case report we describe the case of a patient with cirrhosis who presented with jaundice and initial labs and imaging suggestive of biliary obstruction. The diagnosis of HCC was then made during ERCP with blood clot extraction followed by pathologic analysis of the thrombus. Making the diagnosis promptly and safely permitted the patient to be discharged days later and pursue palliative care measures while avoiding risky and expensive tests. Such an unusual presentation and style of diagnosis has been described only once in the literature to our knowledge, in an image-based report that did not include a discussion or literature review.

**ABBREVIATIONS**

ERCP: Endoscopic Retrograde Cholangiopancreatography; HCC: Hepatocellular Carcinoma; AFP: Alpha-fetoprotein; Hemobilia

**INTRODUCTION**

Hepatocellular carcinoma (HCC) typically occurs in patients with cirrhosis and is diagnosed with cross-sectional imaging, elevated serum alpha-fetoprotein (AFP), and/or by histology. Occasionally, HCC can communicate with the biliary tree and lead to additional complications such as worsening cholestasis, hemobilia, or ascending cholangitis. In this report we describe an unusual case of HCC associated with hemobilia and biliary obstruction, and the diagnosis was made by ERCP and cytologic analysis of the tumor thrombus.

**CASE PRESENTATION**

A 61-year-old Hispanic male with Hepatitis C cirrhosis presented to our hospital with painless jaundice over one week. Medical history was notable for cognitive dysfunction and seizure disorder from prior traumatic brain injury. Physical exam showed a chronically ill, cognitively impaired male with jaundice and stigmata of chronic liver disease. Labs were notable for the following: WBC 3.6K with normal differential, hematocrit 47%, platelets 84K, INR 1.3, albumin 2.6, AST 157, ALT 94, total bilirubin 23, alkaline phosphatase 247, and AFP 112 (0-5).

Abdominal ultrasound showed cholecystolithiasis, mild dilation of the common bile duct, mild splenomegaly, and a cirrhotic liver. MRCP showed cholelithiasis, a dilated proximal common duct, mildly narrowed distal duct, and filling defects versus stricture in the right posterior intrahepatic ducts and common duct including a large, fleshy thrombus that passed into the duodenum after sphincterotomy. The thrombi were extracted, and the largest was netted and sent to Pathology. Histology revealed thrombus packed with nests of malignant epithelial cells staining positive for HepPar-1 and Glypican-3. The findings were consistent with poorly differentiated HCC. A subsequent triple-phase CT scan showed cirrhosis, portal hypertension changes, and a 3.5cm, infiltrative mass in segment 8 abutting the portal vein and obstructing the adjacent bile ducts.

The patient's jaundice improved after ERCP. Because of overall progressive hepatic dysfunction, his family opted to pursue palliative care measures alone. He was discharged to hospice care 2 days after the ERCP and died 1 month later.

**DISCUSSION**

HCC is the most common malignant tumor in the liver and the third most common cause of cancer death worldwide. HCC typically occurs in patients with cirrhosis and presents with liver dysfunction or abdominal pain. Though obstructive jaundice develops in anywhere from 19 to 40% of patients during the disease course, less than 12% of patients present with jaundice initially [1]. Lin et al. first described obstructive HCC in 1972 and...
coined the term “icteric type hepatoma.” [2] Intra- or extrahepatic biliary obstruction may develop as result of hemobilia, tumor thrombus within the duct, extrinsic compression, or diffuse tumor infiltration throughout the liver [3]. In 2000, Lau et al further defined the types HCC-related biliary obstruction as those caused by intraductal tumor (Type I), hemobilia (Type II), or extrinsic duct compression (Type III) [4].

When HCC invades the bile duct, as in our case, associated bleeding can cause malignant clots to fill and obstruct the duct. Alternatively, pure tumor fragments that are fragile, fleshy, and gray-white may dislodge into the duct [5]. Such cases of intraductal HCC are rare and the prognosis is generally poor, with less than two-year survival on average. In these patients a curative resection is technically difficult because tumor is shed distally [6].

However, the diagnosis of HCC is rarely made by cholangiography. In our case, a patient with cirrhosis presented...
with painless jaundice and MRCP was suggestive of biliary stricture or stones, so ERCP was performed. Because of unexplained hemobilia and the unusual appearance of the clot, it was sent to Pathology where a diagnosis of HCC was ultimately confirmed. A triple-phase CT then identified the primary tumor. With this tissue diagnosis, a chronically ill gentleman was able to forego additional invasive and costly procedures with associated morbidity and promptly leave the hospital for hospice care.

Though our case is exceptional, it is not the first. Akarsu et al recently described a patient presenting with abdominal pain and elevated liver chemistries and suspected choledocholithiasis [7]. The patient underwent ERCP which showed tumor thrombus in the bile duct, and pathology showed HCC. A subsequent CT scan showed an enhancing liver lesion consistent with primary tumor.

In the setting of HCC-associated biliary obstruction, ERCP also can provide safe and effective biliary decompression for palliation. Both self-expanding metal stents and plastic stents have been used successfully, and the superiority of metal stents is unclear [8]. ERCP-guided tumor extraction from the duct leading to prolonged remission after chemoembolization has also been described [9,10].

REFERENCES