

A Case of Gallbladder Cancer with Extensive Lymphadenopathy Mimicking Klatskin Tumor

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A case report of a 58-year-old woman who presented with three-week obstructive jaundice. She was found to have metastatic (stage IV) gallbladder adenocarcinoma, with a common bile duct (CBD) stricture mimicking Klatskin tumor. We present the differential diagnosis, along with the amazing radiological images that make it a case to remember.

INTRODUCTION

When a physician or surgeon in general practice is faced with a case of obstructive jaundice (evident by predominant elevation of serum bilirubin and alkaline phosphatase), the best initial diagnostic modality (after a good history, physical exam, and routine laboratory tests) would be an abdominal ultrasonogram; because it is non-invasive, cost effective and covers the entire spectrum of the differential diagnosis including occlusion of the bile duct lumen by stones, common bile duct (CBD) strictures, and extrinsic compression of the CBD by tumors or metastatic portal lymphadenopathy.

As will be shown in the case being presented, the triad of cholestasis, vague abdominal pain, and weight loss is suggestive of a malignant CBD stricture secondary to hepatobiliary or pancreatic malignancy. The differential diagnosis also includes CBD stones, benign CBD strictures, Primary Sclerosing Cholangi-

tis, or compression of the CBD by either chronic pancreatitis or pancreatic cancer.

PRESENTATION OF THE CASE

A 58-year-old woman was admitted to the hospital for evaluation of jaundice. Three weeks before admission, the patient began feeling unwell with mild epigastric pain, nausea, and occasional fevers. Additionally, she noticed her skin color to be changed to yellow. Ultrasonography revealed cholelithiasis with bile duct dilatation and multiple areas of lymphadenopathy, whereas, abdominal computed tomography (CT) revealed extensive lymphadenopathy including mediastinal lymph node involvement as well as perihepatic nodes. She was transferred to our hospital and was admitted for further evaluation.

The vital signs were normal. On examination, the patient appeared well and was alert and oriented but jaundiced; the remainder of the physical examination was normal. The levels of electrolytes, the results of renal-function studies and a complete blood count with differentiation were normal. Liver function tests and serum tumor markers including carcinoembryonic

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A CASE TO REMEMBER

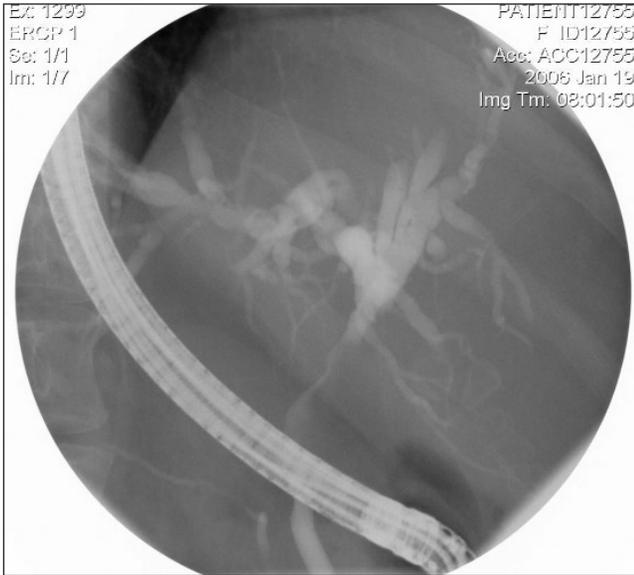


Figure 1. ERCP showing a stricture in proximal CBD.

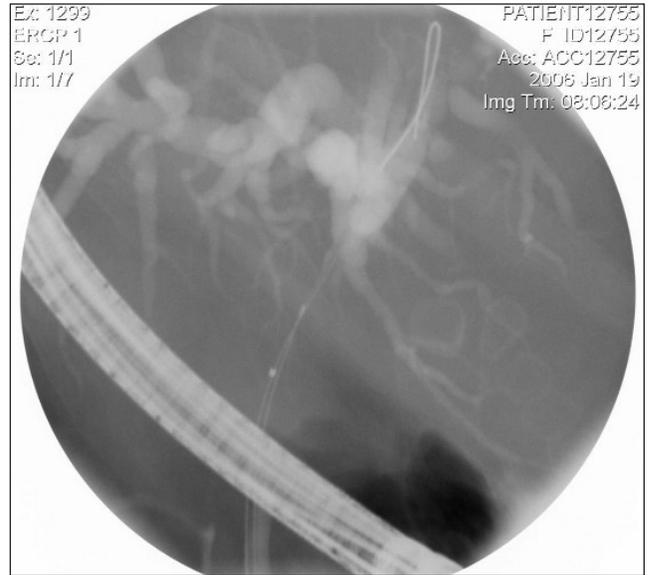


Figure 2. ERCP showing a brushing of CBD stricture.

antigen and CA 19-9 were elevated; with bilirubin being 10.7 mg/dL, and an alkaline phosphates of 228 U/L. Abdominal and pelvic magnetic resonance imaging revealed abdominal lymphadenopathy involving the porta hepatis, periaortic, pericaval, and periiliac regions. Intrahepatic biliary ductal dilatation and abnormal hepatic signal intensity and enhancement surrounding the gallbladder fundus were also identified (Figure 3). On the third day of her hospitalization, the Endoscopic retrograde cholangiopancreatography (ERCP) was performed, which revealed a stricture involving the bifurcation of the common bile duct and proximal common bile duct, consistent with a Klatskin tumor (Figure 1 and 2), multiple gallstones in the GB, and a normal distal common bile duct. Brushing of the stricture was performed, followed by a biliary stent placement; excellent flow of bile was noted at the end of the procedure. The brush cytology proved positive for malignant cells.

The patient's other medical conditions included hypertension, a long history of gallstones, a history of breast cancer status post lumpectomy and radiation therapy (three years previous), and gastric acid reflux disease.

Based on the ERCP and MRI findings, and because of the possibility of a lymphoma, it was decided to proceed with laparoscopy and LN sampling.

During the surgery (mini-laparotomy was done), the gallbladder was identified to be a white tumor-type mass extending into the liver. This appeared to be clinically consistent with gallbladder carcinoma. There were several peritoneal nodules surrounding the common bile duct and the cystic duct. Appropriate samples were taken for pathological exam.

The pathological evaluation revealed a metastatic poorly differentiated adenocarcinoma.

Immunohistochemical stains with appropriate positive and negative controls revealed the tumor as cytokeratin 7-strongly positive, cytokeratin 20-weakly and focally positive, carcinoembryonic antigen-positive, and CA19-9 positive.

DISCUSSION

The differential diagnosis in our case, based on the imaging studies (showing extensive adenopathy both intra-thoracic and intra-abdominal) and the ERCP (showing a proximal CBD stricture) was lymphoma, cholangiocarcinoma (Klatskin tumor), and gallbladder cancer.

Both Hodgkin's lymphoma and non-Hodgkin's lymphomas can be associated with obstruction of the bile duct, and they lead to progressive lymphadenopathy (1,2,3). However, the findings here were not com-



Figure 3. MRI of the abdomen showing an abnormal GB with extensive LN enlargement.

patible with lymphomas. Lymphomas are usually associated with anemia, leukocytosis, and eosinophilia, whereas our patient had normal blood counts.

The clinical manifestations in our patient were quite overlapping with those in cholangiocarcinoma, including mild abdominal pain, fever, and obstructive jaundice (4,5). Moreover, the laboratory studies, serum tumor markers (6,7,8), and even the ERCP (9) findings were quite suggestive of cholangiocarcinoma and specifically the Klatskin tumor—a variant of bile duct tumor that involves the common hepatic duct bifurcation.

Making a definitive tissue diagnosis of cholangiocarcinoma pre-operatively can be difficult. This is an important issue since 13% to 31% of patients with symptoms and ERCP findings suggestive of a CBD malignancy will have either benign fibrosing disease or another malignancy with metastases that obstructs the CBD (10,11).

Even with the enhanced diagnostic capability of newer radiologic studies such as CT and MRI, laparoscopic and/or exploratory surgery might be essential to confirm the diagnosis of gallbladder cancer and obtain a definitive tissue diagnosis as well as in determining the true resectability of the tumor (12).

Gallbladder cancer (GBC) is an uncommon but highly fatal malignancy; fewer than 5,000 new cases are diagnosed each year in the USA. The majority are found incidentally in patients undergoing surgery for cholelithiasis; in fact gallstones are present in

70%–90% of patients with GBC, and there appears to be a relationship between gallstones and the development of GBC (13–18); as it was certainly the case with our patient. ■

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