Gallbladder Cancer Revealed by an Endobiliary Tumor Thrombus

David Fuks · Vijay Borgaonkar · Sushil Deshpande ·
Vaishali Deshpande · Charlotte Mouly ·
Viraj Borgaonkar · Francois Mauvais ·
Vaishali Jadhav · Jean-Marc Regimbeau

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Abstract Common bile duct neoplastic thrombosis is rare and can cause jaundice in case of gallbladder cancer (GBC). We report the case of a 45-year-old man with GBC located in the fundus associated with a malignant endobiliary thrombus. A surgical procedure has been performed, including segmentectomy 4b+5 with common bile duct resection with Roux-en-Y hepaticojejunostomy. Postoperative courses were uneventful and the patient is alive at 15 months.

Keywords Gallbladder cancer · Endobiliary thrombus · Surgery

Abbreviations

GBC Gallbladder cancer
ASAT Aspartate transaminase
ALAT Alanine transaminase
PET Positron emission tomography
CT Computed tomography

Introduction

In a case of gallbladder cancer (GBC), the hepatic pedicle is involved in multiple ways, including disease extension to the common bile duct [1, 2], concomitant common bile duct

stones [3], obstruction caused by lymph node compression [4], or tumor thrombus [5]. Jaundice occurs in up to 30 to 50 % of patients with GBC [6] and mostly implies tumor extension to the common bile duct and biliary confluence. Hence, jaundice is an indicator of advanced disease with a poor prognosis in patients with GBC [7], but not in the case of tumor thrombus; hence, we report a new case of GBC with endoluminal biliary thrombus.

Observation

A 45-year-old man complained of pain in the right upper abdomen for 3 months with no jaundice and fever. The patient was chronic tobacco chewer and occasional alcoholic. On clinical examination, no abnormality was detected. Liver function test revealed serum bilirubin levels of 42 IU/L, aspartate transaminase (ASAT) and alanine transaminase (ALAT) 29/24 IU/L, and alkaline phosphatase 345 IU/L. Pancreatic enzymes were normal. Computed tomography (CT) scan revealed ill-demarcated, heterogeneously enhancing soft tissue density mass lesion measuring 50×31 mm involving the fundus and body of the gallbladder. Lesion was also extending into the gallbladder fossa and the adjacent hepatic parenchyma with diffuse thickening of the rest of the gallbladder wall. Intra- and extrahepatic biliary system was not dilated, but a distinct localized cystic obstruction was noted (Fig. 1). There was no evidence of paraortic lymph node enlargement. Surgery was performed through a midline laparotomy with no prior biopsy or biliary drainage. Intraoperative ultrasonography confirmed the mass arising from the gallbladder fundus. The endobiliary obstruction of the cystic duct was extended to the common bile duct over a 6-mm length. The patient underwent segmentectomy

D. Fuks · C. Mouly · F. Mauvais · J.-M. Regimbeau (✉)
Department of Digestive Surgery—CHU Nord Amiens,
University of Picardy, Place Victor Pauchet,
80054 Amiens Cedex 01, France
e-mail: regimbeau.jean-marc@chu-amiens.fr

V. Borgaonkar · S. Deshpande · V. Deshpande · V. Borgaonkar ·
V. Jadhav
Department of Digestive Surgery, Seath Nandlal Dhoot Hospital,
Aurangabad, India

Fig. 1 **a.** Enhanced CT scan showing ill-demarcated, heterogeneously enhancing soft tissue density mass lesion involving the fundus of the gallbladder. Intrahepatic biliary system is not dilated and a cystic localized obstruction is noted (*arrow*) **b.** Enhanced CT scan showing

heterogeneously enhancing soft tissue density mass lesion involving the fundus and the body of the gallbladder. Cystic localized obstruction was also noted

4b+5, with en bloc common bile duct resection (given the extension of the endobiliary tumor thrombus in the common bile duct) and Roux-en-Y hepaticojejunostomy (Fig. 2) along with locoregional lymphadenectomy. One

centimeter of duodenal wall was also included in the en bloc resection. Operative time was 360 min and the blood loss was 300 mL. On examination of the specimen, we confirmed the endobiliary thrombus in the

Fig. 2 **a** Macroscopic photo of the liver resection at the beginning of the parenchyma transection. **b** Macroscopic photo of the liver resection at the end of the parenchyma transection. Then, the common bile duct is ligated. **c** Macroscopic photo of the beginning of the hepaticojejunostomy after liver resection

Fig. 3 **a** Macroscopic photo of the anterior part of the specimen (segmentectomy 4a+5). **b** Macroscopic photo of the lower part of the specimen (segmentectomy 4a+5) with the adherent cystic duct endobiliary thrombus

cystic and the common bile duct (Fig. 3). Malignancy was confirmed pathologically with R0 resection. Definitive staging was pT3N0M0. The postoperative outcomes were uneventful and the patient is alive at 15 months.

Discussion

In this patient who presented with anicteric cholestasis, jaundice would have occurred rapidly. Exceptionally, migratory malignant endobiliary thrombus that can cause jaundice in fact was partially occluding the common bile duct [8–10]. Of the five reported cases, only one patient died from local recurrence 10 months after surgery [10]. The other four were still alive at 6, 18, 24, and 48 months, respectively [8, 9]. Of all these cases, three patients had well-differentiated cholangiocarcinoma with mucinous contingent that would explain this favorable outcome [8, 9]. In this particular situation (obstruction of the cystic duct with a fundus carcinoma), the two major differential diagnoses are represented by Mirizzi syndrome and xanthogranulomatous cholecystitis [11]. Xanthogranulomatous cholecystitis is characterized by a pseudotumoral thickening of the gallbladder wall due to a chronic inflammation [12]. Serum CA-19.9 can be elevated in both of these differential diagnoses of GBC [11, 13]. In case of doubtful lesion, percutaneous biopsy can be proposed [14] so as PET-CT with a sensibility of 75 % and a specificity of 87 %, in a short series of eight patients [15]. Because there was no doubt about malignancy and no sign of nonresectability in our patient, we deliberately decided to perform curative-intent resection, including resection of the common bile duct [16]. Unlike icteric-type hepatocellular carcinoma, the endobiliary thrombus in CGB is usually adherent to the biliary wall. Hence, resection of the common bile

duct was performed instead of elective removal of the thrombus.

To conclude, in case of jaundiced patients with the suspicion of GBC, the diagnosis of malignant endobiliary thrombus has to be known. Extended resection including thrombus removal would provide a better outcome in jaundiced patients compared to those with direct involvement of common bile duct.

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