

Case Report

Obstructive jaundice secondary to metastatic gastric adenocarcinoma

Ravi Shankar Bagepally^{1*}, Sanket Kulkarni², Mumina Ramzan¹, Bhageerath Reddy Patlolla¹, Teja Thota¹, Vamsi Krishna Bodireddy¹

¹Department of Gastroenterology, Yashoda Hospitals, Secunderabad, Telangana India

²Department of Interventional Radiology, Yashoda Hospitals, Secunderabad, Telangana India

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*Correspondence:

Dr. Ravi Shankar Bagepally

E-mail: b_ravishankar@yahoo.com

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ABSTRACT

Cancer related obstructive jaundice is commonly associated with pancreatic biliary malignancies but is an uncommon manifestation of gastric carcinoma. The occurrence of malignant biliary obstruction in patients with previously treated gastric cancer is rare and generally indicates advanced metastatic disease with poor prognosis. A 39-year-old male with a history of gastric adenocarcinoma diagnosed in 2024, treated with total gastrectomy (pT4N3aM) and chemotherapy (FLOT regimen 8 cycles followed by FOLFIRI & Nivolumab 9 cycles), presented with progressive jaundice, dark coloured urine and abdominal distension. Laboratory investigations revealed elevated total bilirubin, alkaline phosphatase and gamma-glutamyl transferase. Contrast enhanced imaging demonstrated intrahepatic biliary radicle dilation, proximal common bile duct dilation, abrupt mid common bile duct narrowing suggestive of malignant stricture, pancreatic duct dilation, moderate ascites and bilateral hydronephrosis. Ascitic fluid analysis excluded spontaneous bacterial peritonitis. Right sided double-J ureteric stenting was performed for hydronephrosis. Due to altered postoperative anatomy (gastrectomy), percutaneous transhepatic biliary drainage was undertaken. Cholangiography confirmed proximal common bile duct stricture and a self-expanding metallic stent (SEMS) was deployed percutaneously. Significant biliary decompression and symptomatic improvement was achieved. Malignant biliary obstruction due to metastatic gastric cancer is an uncommon clinical entity and associated with significant complications. In patients with altered anatomy after gastrectomy, percutaneous transhepatic biliary drainage with metallic stent placement provides effective palliation and symptomatic relief.

Keywords: Gastric cancer, Obstructive jaundice, Malignant biliary obstruction, PTBD, SEMS, Metastatic carcinoma

INTRODUCTION

Gastric cancer remains one of the leading causes of cancer related mortality worldwide. Although metastatic spread commonly involves the liver, peritoneum and distant lymph nodes, the development of obstructive jaundice is uncommon occurring in approximately 2-3% of patients. Malignant biliary obstruction in gastric cancer usually results from metastatic lymphadenopathy involving the hepatoduodenal ligament, porta hepatis or pancreatic head region causing extrinsic compression on the bile duct.

The presence of jaundice generally signifies advanced disease and is associated with a poor prognosis. Management is primarily palliative and focuses on relieving biliary obstruction, improving quality of life and facilitating further oncologic treatment when feasible.¹ This report represents a rare case of obstructive jaundice occurring after total gastrectomy for gastric adenocarcinoma, successfully managed with percutaneous transhepatic biliary drainage and SEMS placement.

CASE REPORT

A 39-year-old male presented with progressive yellow discolouration of the eyes and skin, dark coloured urine and abdominal distension. He had been diagnosed as gastric adenocarcinoma (pT4N3aM) in 2024 and underwent total gastrectomy followed by adjuvant chemotherapy FLOT regimen (5-fluorouracil, leucovorin, oxaliplatin and docetaxel for every 2 weeks for 8 cycles) followed by FOLFIRI (Folinic acid, 5-fluorouracil, Irinotecan and Nivolumab for 9 cycles).

On examination, he had jaundice moderate ascites and stable hemodynamic parameters. Laboratory investigation demonstrated a cholestatic pattern of liver dysfunction.

Viral serologies including hepatitis B surface antigen, anti-hepatitis C virus antibody and HIV 1 and 2 antibodies were non-reactive (Table 1).

Table 1: Lab investigations

Parameters	Results
Total bilirubin	15.40 mg/dl
Direct bilirubin	9.06 mg/dl
Indirect bilirubin	2.86 mg/dl
Alkaline phosphatase	605 U/l
SGOT	130 U/l
SGPT	175 U/l
Total protein	6.10 g/dl
GGT	262 IU/l
HBsAg	Non-reactive
Anti-HCV	Non-reactive
HIV 1 & 2	Non-reactive

Ultrasonography of abdomen revealed moderate intrahepatic biliary radicle dilation (IHBRD), common bile duct (CBD) dilation, abrupt narrowing of mid-common bile duct, minimal dilation of the proximal pancreatic duct, moderate ascites and bilateral hydronephrosis.

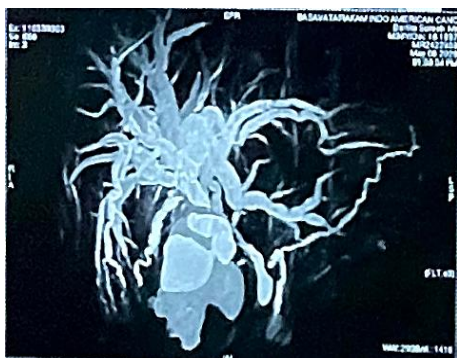


Figure 1: MRCP cholangiopancreatography,

MRCP (Figure 1) showed marked dilatation of IHBR and CHD with distal CBD obstruction.

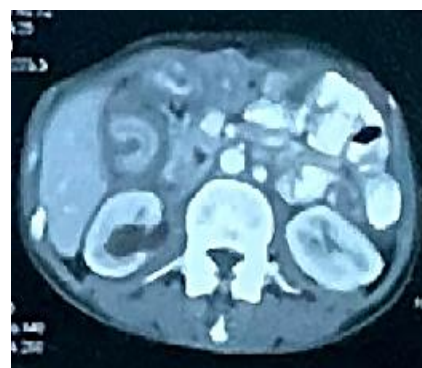


Figure 2: CECT Abdomen.

CECT abdomen (Figure 2) showing obstruction of distal CBD.

During hospital stay, ultrasound guided therapeutic paracentesis was performed with drainage of 2.5 litres of ascitic fluid. Ascitic fluid analysis was negative for spontaneous bacterial peritonitis. Urological evaluation identified bilateral hydronephrosis and right retrograde pyelography with Double-J stenting was successfully performed.

Given the altered postoperative anatomy following total gastrectomy, endoscopic biliary intervention was considered technically challenging. Therefore, percutaneous transhepatic biliary drainage was undertaken. Access to the left hepatic duct was obtained under ultrasound and fluoroscopic guidance. Cholangiography demonstrated a proximal common bile duct stricture. Following successful guidewire negotiation, balloon dilatation was performed using an 8×60 mm balloon catheter. A 10×100 mm self-expanding metallic stent was deployed across the stricture and satisfactory contrast drainage into the distal biliary tree obtained. An 8-French Malecot external biliary drain was temporarily placed and subsequently removed.

The patient demonstrated clinical improvement following biliary decompression and was discharged in stable condition with advice for oncological follow-up.

DISCUSSION

Obstructive jaundice in gastric carcinoma is rare and usually indicates advanced metastatic disease. The most common mechanism is metastatic lymphadenopathy in the hepatoduodenal ligament causing extrinsic compression of the common hepatic duct or common bile duct. Less frequent mechanisms include direct bile duct invasion, lymphangitic spread, hepatic or hilar metastases, peritoneal carcinomatosis and postoperative anastomotic recurrence. In our patient, the imaging findings of an abrupt mid-common bile duct stricture following total gastrectomy strongly suggest metastatic nodal compression, consistent with the most commonly reported mechanisms in the literature.^{2,5}

Lee et al. reported obstructive jaundice in patients with advanced gastric cancer involving distal stomach caused by metastatic lymphadenopathy compressing the common hepatic duct (CHD) or proximal CBD.³ These findings correlate with our patient who developed jaundice after treatment for gastric carcinoma and was found to have ascites, biliary obstruction and urinary tract obstruction suggestive of widespread metastatic disease.

Shiraishi et al reviewed 855 patients with primary and recurrent gastric cancer over a 15 year period and found that only five patients (0.6%) developed obstructive jaundice, highlighting the rarity of this complication.⁴ The author observed that four of five patients developed biliary obstruction secondary to metastatic lymph node involvement around hepatoduodenal ligament, while one patient had intrahepatic biliary obstruction due to multiple liver metastases. All patients had advanced disease and most exhibited extensive nodal metastasis and peritoneal dissemination.

The findings in the current patient closely mirror those rare cases reported by Shiraishi et al. The patient developed obstructive jaundice after total gastrectomy and demonstrated associated ascites, biliary obstruction and hydronephrosis suggestive of widespread metastatic disease. Similar to the reported series, the most likely mechanism is metastatic lymph node involvement causing extrinsic compression of the CBD rather than primary biliary malignancy.

Chu et al evaluated patients with extrahepatic biliary obstruction secondary to metastatic gastric carcinoma and demonstrated that nodal metastases around pancreatic head and hepatoduodenal ligament were predominant mechanisms of obstruction rather than direct tumor invasion of the bile duct.⁵ The radiological findings in our patient showing abrupt narrowing of the mid and distal common bile duct with dilated pancreatic duct are consistent with this mechanism.

Smith et al. demonstrated that endoscopic stenting offers effective palliation with lower morbidity compared with surgical bypass in malignant biliary obstruction leading to widespread adoption of minimally invasive drainage procedures.⁶ However, patients with altered gastrointestinal anatomy following gastrectomy may not be suitable candidates for conventional ERCP because of difficulty in accessing the papilla. In such situations percutaneous transhepatic biliary drainage (PTBD) and self-expanding metal stent (SEMS) remains an effective alternative.

The patient in the presented case had previously undergone total gastrectomy making endoscopic access technically challenging PTBD with deployment of a

SEMS successfully relieved the obstruction and resulted in symptomatic improvement.

Salient points

This case study revealed that obstructive jaundice is a rare complication of gastric carcinoma and signifies advanced metastatic disease. Metastatic lymph node compression of biliary tract is the most common mechanism. Altered anatomy following gastrectomy may limit conventional ERCP access. PTBD with metallic stent placement offers effective biliary decompression and palliation. Early biliary drainage improves symptoms, QOL and facilitates oncological management.

CONCLUSION

Malignant biliary obstruction is an uncommon manifestation of recurrent or metastatic gastric cancer and usually indicates advanced disease. This case highlights the importance of considering metastatic nodal compression as a cause of obstructive jaundice in patients with previous gastrectomy. PTBD with SEMS placement provides effective palliation and symptomatic relief in patients with altered gastrointestinal anatomy.

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