

Diagnostic Dilemma in an Unusual Case of Common Bile Duct Obstruction

Vimal Bhandari, Mohit Singh, Hari Gopal Vyas, Nitin Sharma, and Rajkumar Chejara

Department of Surgery, Vardhaman Mahavir Medical College and Safdarjang Hospital, New Delhi, India

Biliary obstructions are rarely caused by a foreign body and have received sparse attention. We present an unusual case with pruritis and abdominal pain caused by impacted full length surgical gauze within the common bile duct. The patient had previously undergone an open cholecystectomy. Radiological investigations were inconclusive and suggestive of either a calculus or a cholangiocarcinoma. Surgical exploration revealed full length surgical gauze within the common bile duct. Because imaging modalities are often non-determinant, the possibility of biliary tract obstruction from a foreign body should be borne in mind for patients with unusual presentations, especially those who have previously undergone surgery. (*Gut Liver* 2011;5:245-247)

Key Words: Foreign body; Bile duct obstruction

INTRODUCTION

Obstructive jaundice is commonly caused by a stone or growth in common bile duct (CBD). Foreign bodies in the biliary tract like sutures,¹ fish bone,² tomato skin,³ surgical gauze,^{1,4,5} and chicken bone⁶ represent an uncommon clinical entity and are rare cause of biliary obstruction.^{1,4} However with recent advancements in endoscopic and laparoscopic surgery an increasing number of impacted foreign bodies like endoclips have been reported.¹ The previous reported cases with impacted surgical gauze in CBD had classical presentation of obstructive jaundice.^{1,4,5} We report a unique case of 45-year-old female who presented with abdominal pain and itching caused by surgical gauze impacted in the biliary tree without any clinical evidence of jaundice and cholangitis.

CASE REPORT

A 45-year-old female presented to out patient clinic with complaints of severe itching and occasional attacks of abdominal pain for past 2 to 3 months. She had undergone open cholecystectomy 10 years back however no operative details of the procedure were available. Physical examination was unremarkable except for itch marks over the abdomen and operative healed scar with primary intention in the right subcostal region. No lump was palpable on per abdomen examination. Laboratory parameters demonstrated leukocyte count 8,700/cu.mm, serum alkaline phosphatase 806 IU/mL, total serum Bilirubin 1.4 mg/dL with conjugated fraction 1.0 mg/dL. Ultrasonography of the abdomen showed dilated intrahepatic biliary radicals (IHBR) and dilated common hepatic duct with an echogenic structure

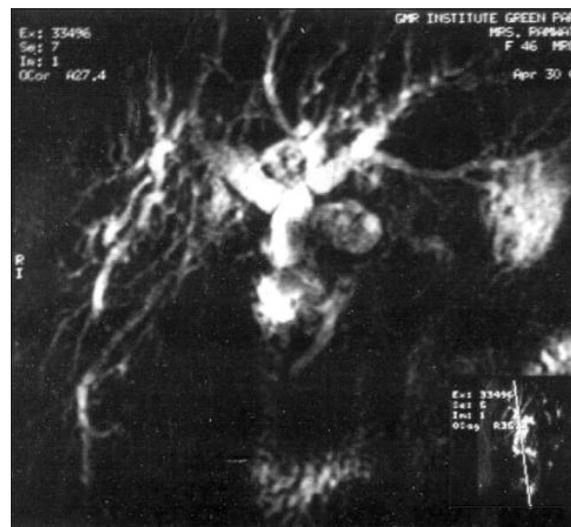


Fig. 1. Magnetic resonance cholangiopancreatography of the patient showing dilatation of intra-hepatic biliary radicals and dilated hepatic ducts with a signal-void mass lesion of the common bile duct.

Correspondence to: Vimal Bhandari

Department of Surgery, Vardhaman Mahavir Medical College and Safdarjang Hospital, D II/24 East Kidwai Nagar, New Delhi 110-023, India
Tel: +91-9899027348, Fax: +91-1126191877, E-mail: mohitsingh24@gmail.com

Received on March 12, 2010. Accepted on May 19, 2010.

pISSN 1976-2283 eISSN 2005-1212 DOI: 10.5009/gnl.2011.5.2.245

© This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.



Fig. 2. Choledochotomy and retrieval of gauze from the common bile duct.

of 36×33 mm size in the proximal bile duct with post-acoustic shadow suggestive of a calculus. Magnetic resonance cholangiopancreatography (MRCP) also revealed marked dilatation of the IHBR and hepatic duct with signal void lesion in the distal CBD (Fig. 1). A heterogeneous mass was seen within CBD extending proximally towards the porta hepatis suggesting possibility of cholangiocarcinoma arising from the hepatic duct. Computed tomography was inconclusive and could not define the cause of obstruction. Endoscopic retrograde cholangiopancreatography (ERCP) was attempted but cannulation failed. A differential diagnosis of calculus with secondary cholangiocarcinoma was made and exploratory laparotomy was planned. On surgical exploration no obvious growth or lymph nodes were seen. A soft to firm structure was palpable within the CBD and the hepatic ducts. Choledochotomy revealed full length surgical gauze lying within the proximal CBD and common hepatic duct extending into the right hepatic duct (Fig. 2). The gauze was removed and CBD was closed over a T-tube. Gross examination of the retrieved gauze revealed staining with bile and few concretions. Cholangiogram performed on 14th post operative day revealed free flow into the duodenum. Patient had an uneventful postoperative course and was discharged subsequently. She remained free of symptoms on follow up at 3 months.

DISCUSSION

Biliary obstruction due to foreign bodies are uncommon and have been rarely described.¹⁻⁸ Ban *et al.*⁷ reviewed the literature and found 63 patients of foreign objects in the biliary tract. Majority of these cases presented with biliary colic and jaundice was present in 46% of the patients. Commonly encountered foreign bodies included residuals from previous operations, mostly a suture ligature acting as a nidus for stone formation. Others

included missiles and ingested materials. Penetrating injuries (missiles) usually present with a long symptom free period.^{7,8} There is documented susceptibility to reflux of food into the biliary system and foreign bodies like fish bone and tomato skin^{2,3} have been retrieved in patients with enteric-biliary anastomosis or those who had endoscopic sphincterotomy. Recently with increase in laparoscopic cholecystectomy, foreign bodies like clips have also been reported within the biliary tract.⁶ Roentgenologic investigations are usually unrewarding. Plain X-rays of abdomen have revealed foreign bodies in only a few cases and correct diagnosis was not possible in majority.⁷ Ultrasonography and MRCP findings are also inconclusive in most of the reported cases and usually mimic CBD calculus.^{7,9} Cipolletta *et al.*⁵ reported retrieval of a surgical gauze from CBD by endoscopic sphincterotomy. Cimsit *et al.*⁴ also reported a case of obstructive jaundice due to a textiloma mimicking a CBD calculus. In the presented report we found a surgical gauze causing obstruction in the biliary tract which was suggestive of a calculus or cholangiocarcinoma on initial evaluation. While the patients in the previous reports^{5,7} presented with either obstructive jaundice or cholangitis, the patient in our report had unusual absence of icterus despite the gauze being impacted in the hepatic duct and causing marked dilatation of IHBR on imaging studies. Another unusual feature was absence of symptoms suggestive of cholangitis and a late presentation, almost 10 years after the initial operation. The exact mechanism explaining migration of gauze into CBD is elusive however transperitoneal migration of foreign bodies into the bile duct have been described.¹ Transmural migration of surgical mop into the intestine secondary to erosion⁹ has been described in literature and could explain the finding. Also some surgeons while performing open cholecystectomy with choledochotomy in older days for calculus extraction used to pack the CBD proximally with gauze to prevent proximal migration may have been accidentally left behind. Late presentation and absence of jaundice could be explained by possible partial obstruction of CBD.

Endoscopic sphincterotomy can be diagnostic and is also advocated as procedure of choice for extraction of foreign bodies within the biliary tract.⁵ The procedure was not feasible in our case owing to failure to successfully cannulate the ampulla. Pre-operative evaluation may not appropriately identify the real cause of obstruction in patients with intrabiliary foreign bodies especially in the setting of unusual presentation as in our case. Further in patients who have been operated previously the possibility of a foreign body causing obstruction to biliary tract should be borne in mind.

REFERENCES

1. Toland CG. Foreign bodies in biliary tract. *Ann Surg* 1933;98:904-908.
2. Kaji H, Asano N, Tamura H, Yuh I. Common bile duct stone

- caused by a fish bone: report of a case. *Surg Today* 2004;34:268-271.
3. Szanto I, Gamal EM, Banai J, Bajtai A, Bozalyi I, Dobo I. Common bile duct stone formation induced by tomato skin following endoscopic sphincterotomy. *Endoscopy* 1994;26:712.
 4. Cimsit B, Keskin M, Ozden I, Alper A. Obstructive jaundice due to a textiloma mimicking a common bile duct stone. *J Hepatobiliary Pancreat Surg* 2006;13:172-173.
 5. Cipolletta L, Bianco MA, Rotondano G, et al. Endoscopic retrieval of a surgical gauze from the common bile duct. *Ital J Gastroenterol Hepatol* 1997;29:58-61.
 6. Ahn SI, Lee KY, Kim SJ, et al. Surgical clips found at the hepatic duct after laparoscopic cholecystectomy: a possible case of clip migration. *Surg Laparosc Endosc Percutan Tech* 2005;15:279-282.
 7. Ban JL, Hirose FM, Benfield JR. Foreign bodies of the biliary tract: report of two patients and a review of the literature. *Ann Surg* 1972;176:102-107.
 8. Simmons TC, Essilfie W, Fleming A. Obstructive jaundice occurring 40 months after gunshot wound to the left thoraco-abdomen. *Gastrointest Endosc* 1998;48:423-425.
 9. Sarkar MM, Kibira AK, Haque MM, Sarkar KP, Rahman MK. Spontaneous transmural migration of a retained surgical mop into the small intestinal lumen causing sub-acute intestinal obstruction: a case report. *TAJ* 2006;19:34-37.