MIRIZZI'S SYNDROME : AN UNUSUAL CAUSE OF OBSTRUCTIVE JAUNDICE (A Case Report)

Col S SELVARAJ*, Lt Col KM HARIKRISHNAN+,
Lt Col LS VOHRA+, Maj RS RENGAN#, Lt M BHASIN**

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Introduction

Jaundice due to obstruction of the common bile duct (CBD) by gall-stones is a familiar clinical problem. However, such obstruction of the CBD may also occur when a stone is impacted in the cystic duct or the Hartmann's pouch and is extrinsically compressing the CBD. This symptom complex is known as Mirizzi's syndrome. At times, the stone may burrow its way into the CBD, leading to the formation of a cholecysto-choledochal fistula. We report here one such case where the diagnosis was made intraoperatively.

CASE REPORT

The patient was a 62-year-old male who presented with intermittent episodes of pain in the right hypochondrium and fever for the previous one year. He gave no history of jaundice. At the time of admission, however, he had moderately severe jaundice and pruritus, and his stools were clay coloured. Clinical examination was otherwise unremarkable.

The serum bilirubin and alkaline phosphatase were elevated (7.6 mg/dL and 420 KA units/dL respectively), while the serum transaminases were normal. Ultrasound of the abdomen indicated multiple gall-stones with a stone possibly in the lower end of the CBD. The gall-bladder wall was thickened and the CBD diameter was 7 mm. A preoperative diagnosis of cholelithiasis with choledocholithiasis producing obstructive jaundice was thus made.

At operation the gall-bladder was found to be thick-walled and contracted with no stones palpable within. The CBD was dilated (1.5 cm), thick-walled and stones were palpable inside. It was decided to do a cholecystectomy and then explore the CBD. However, the gall-blad-

der was adherent to the CBD, and the cystic duct insertion was low down on the medial aspect of the CBD. The cystic duct was ligated, and a peroperative cholangiogram was done by direct needle puncture of the CBD. The dye was seen flowing freely into the gall-bladder, and multiple filling defects were seen in the CBD. Presence of a cholecystocholedochal fistula was thus established. A subtotal cholecystectomy was done and the defect in the wall of the CBD was repaired with a patch of the adherent gall-bladder wall. The CBD was then formally explored and multiple stones removed from its lumen. A choledochoduodenostomy was then carried out. The patient made an uneventful recovery and is doing well 5 months after the operation.

Discussion

Mirizzi's syndrome consists of a triad; cystic duct gall-stone (or gall-stone in the Hartmann's pouch), chronic cholecystitis with shrunken gall-bladder, and benign stenosis of the common hepatic or common bile duct [1]. The reported incidence of this syndrome is 1% of all cholecystectomies [2]. In our patient, the stone had migrated from the gall-bladder into the CBD through a fistulous tract. This is at variance from the classical syndrome described by Mirizzi in 1948 [3]. Recently a unified classification has been proposed by Csendes et al [4]. Type I lesions are those with extrinsic compression of the CBD. In type II lesions a cholecystocholedochal fistula is present with erosion of less than one third of the circumference of the bile-duct. In type III lesions the fistula involves upto two-thirds of the circumference of the CBD, while in type IV lesions there is complete

*Senior Adviser (Surgery); +Classified Specialist (Surgery); #Graded Specialist (Surgery); **Intern; Command Hospital (EC), Calcutta 700 027.

destruction of the bile duct. Thus, in types II, III and IV, stones from the gall-bladder escape into the CBD and can cause obstructive jaundice, often accompanied by features of cholangitis. Our case falls into type II. Such fistulas are difficult to recognize preoperatively, and carry a high risk of damage to the CBD at cholecystectomy [5]. This is because the adherent gall-bladder overlies the CBD. A gall-stone in this location may appear to be inside the gall-bladder during ultrasound examination. This was probably the case in our patient. A high index of suspicion is therefore required to arrive at a preoperative diagnosis [6]. The possibility of Mirizzi's syndrome should be considered in every case of obstructive jaundice, particularly if there is history of repeated attacks of biliary colic with features of cholangitis and or transient jaundice. It should be suspected whenever large stones are detected inside the CBD [7]. Mirizzi's syndrome should also be entertained in the differential diagnosis of Klatskin tumours [8]. This is all the more important since the tumour associated antigen CA19-9 is raised both in cholangiocarcinoma as well as Mirizzi's syndrome [9].

Preoperative diagnosis was not possible in our case. We had a working diagnosis of cholelithiasis with choledocholithiasis based on ultrasound examination alone. Direct cholangiography is more informative than ultrasound for the diagnosis of Mirizzi's syndrome [1]. Jimenez et al [2] reported 77 cases of the syndrome; jaundice was present in 98%, and serum alkaline phosphatase was raised in 97%. Percutaneous transhepatic cholangiography (PTC) was diagnostic in a high percentage of cases. Endoscopic retrograde cholangiography (ERC) is another useful diagnostic tool. Findings include a smooth stenosis of the CBD, or a short rounded indentation. Contrast medium may be seen entering the gall-bladder through a fistulous communication [1]. When PTC or ERC is not available, a preoperative cholangiogram is mandatory. This is particularly important when the gall-

bladder is found adherent to the CBD. The diagnosis of cholecystocholedochal fistula in our patient was possible only after a cholangiogram. When a fistula between the gall-bladder and the CBD is seen, injury to the CBD is best avoided by leaving a cuff of gall-bladder adherent to the CBD. Exploration of the CBD and a suitable drainage procedure should follow (T-tube drainage, choledochoduodenostomy or a choledochojejunostomy). Our patient underwent a subtotal cholecystectomy and choledochoduodenostomy, and has done well during follow up. At present Mirizzi's syndrome constitutes a contraindication to laparoscopic cholecystectomy [10].

REFERENCES

1. Wurbs DFW. Calculous disease of the bile ducts. In : Sivak MV Jr, editor. *Gastroenterologic Endoscopy*. Philadelphia : WB Saunders, 1987; 652-72.
2. Jimenez O, Palacios JM, Correa R, Rojas M, Lopez O. Mirizzi syndrome : experience of 77 cases. *Rev Med Chil* 1989; 117 : 501-7.
3. Moulr RG, Wilczynski M, Mullangi U, Mehta H. Mirizzi syndrome (hepatic duct obstruction). *J Am Osteopath Assoc* 1992; 92 : 930-2.
4. Csendes A, Diaz JC, Burdiles P, Maluenda F, Nava O. Mirizzi syndrome and cholecystobiliary fistula : A unifying classification. *Br J Surg* 1989; 76 : 1139-43.
5. Yip AW, Chow WC, Chan J, Lam KH. Mirizzi syndrome with cholecystocholedochal fistula : Preoperative diagnosis and management. *Surgery* 1992; 111 : 335-8.
6. Bower TC, Nagorney DM. Mirizzi syndrome. *HPB Surg* 1988; 1 : 67-74.
7. Reddy KR, Raskin JB, Manten HD, Livingstone AS, Levi JU, Jeffers LJ, Schiff ER. The unusual presentation of "large" gall-stones. The diagnostic role of endoscopy. *J Clin Gastroenterol*. 1986; 8 : 171-4.
8. Wetter LA, Ring EJ, Pellegrini CA, Way LW. Differential diagnosis of sclerosing cholangiocarcinoma of the common hepatic duct (Klatskin tumours). *Am J Surg* 1991; 161 : 57-62.
9. Turtel PS, Kreel I, Israel J, Frager D, Berman D. Elevated CA19-9 in a case of Mirizzi's syndrome. *Am J Gastroenterol* 1992; 87 : 355-7.
10. Rust KR, Clancy TV, Warren G, Mertesdorf J, Maxwell JG. Mirizzi's syndrome : A contraindication to coelioscopic cholecystectomy. *J Laparoendoscopic Surgery* 1991; 1 : 133-7.