Mirizzi syndrome and gallbladder cancer

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Abstract

Background/Purpose. Mirizzi syndrome is a rare complication of gallstone disease (GSD). The association of Mirizzi syndrome and gallbladder carcinoma (GBC) is not well understood. We report our experience of gallbladder carcinoma in patients with Mirizzi syndrome.

Methods. We performed a retrospective analysis of the records of patients with Mirizzi syndrome who underwent cholecystectomy at a tertiary care hospital with special emphasis on patients who were found to harbor GBC. Patients with Mirizzi syndrome with associated GBC were compared with those who had Mirizzi syndrome alone and those with uncomplicated GSD.

Results. Out of 4800 cholecystectomies, Mirizzi syndrome was found in 133 (2.8%). Seven (5.3%) patients with Mirizzi syndrome had associated GBC, as compared to only 1% in patients with GSD. GBC was detected on final histology after cholecystectomy in 5 patients, and was detected preoperatively and intraoperatively in 1 patient each. Patients with Mirizzi syndrome with associated GBC were older (60 vs 50 years; \( P \leq 0.0001 \)) and had a longer duration of symptoms (59 vs 24 months; \( P = 0.002 \)) as compared to those with Mirizzi syndrome alone. However, presenting clinical features were not different in these two groups.

Conclusions. There was a higher incidence of GBC in patients with Mirizzi syndrome than in patients with uncomplicated GSD. There were no clinical features to differentiate these patients with GBC from those with Mirizzi syndrome alone, except that they were a decade older and had longer duration of symptoms. In the majority, the diagnosis of GBC was made on final histology, after cholecystectomy; hence, this group of patients with GBC are to be treated like any other patients with incidental GBC.

Key words Mirizzi syndrome · Gallbladder cancer · Gallstone disease · Xanthogranulomatous cholecystitis

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Background

Mirizzi syndrome is a rare complication of gallstone disease (GSD). It is defined as a symptom complex arising due to chronic compression of the common bile duct (CBD) or subsequent fistulization between the gallbladder (GB) and the CBD, due to an impacted stone in the gallbladder neck or the cystic duct. The incidence of Mirizzi syndrome in patients with GSD varies from 0.2% to 2.7%. There are only a few anecdotal reports and some small series reporting an association of Mirizzi syndrome with gallbladder cancer (GBC). It has been hypothesized that longstanding GSD may predispose to both conditions. We reviewed our data on cholecystectomies, with the aim of finding out the actual incidence of Mirizzi syndrome and the incidence of its association with GBC.

Patients and methods

A retrospective analysis of patients who underwent surgical treatment for GSD at the department of surgical gastroenterology at a tertiary care referral hospital in northern India between 1989 and 2003 was performed. Patients were diagnosed to have Mirizzi syndrome based on preoperative cholangiographic findings (32%) and/or intraoperative (68%) findings. Patients were classified as having various types of Mirizzi syndrome as described by Csendes et al. The records of all patients with Mirizzi syndrome were reviewed regarding demographic features, presentation, type of Mirizzi syndrome, stage of diagnosis of GBC, surgical management, and outcome. Patients were divided into two groups, i.e., those with Mirizzi syndrome with associated GBC (Gp1) and those with Mirizzi syndrome alone (Gp2). Preoperative fine-needle aspiration cytology (FNAC) and intra-operative frozen section was done in patients in whom suspicion of GBC was high.
Patients with Mirizzi syndrome and associated GBC (Gp1) were compared with those who had Mirizzi syndrome alone (Gp2) with reference to demographic data, clinical presentation, and other associations. The data of 100 consecutive patients with uncomplicated GSD (cholelithiasis and/or choledocholithiasis without Mirizzi syndrome), who underwent surgical treatment were also analyzed, forming the basis for further comparison (Gp2). We also reviewed the GBC data (dbase) to get information regarding the total number of resectional surgeries performed for GBC during this period and to have information on incidental GBC. Statistical analysis was done using Student's t-test and the χ² test wherever applicable. A P value of ≤0.05 was considered significant.

Results

Mirizzi syndrome was the diagnosis in 133 (2.8%) out of 4800 cholecystectomies (open and laparoscopic) performed for GSD during the study period. During the same period, 206 patients underwent resectional surgery (simple and radical cholecystectomy) for GBC. Among the patients with Mirizzi syndrome, 7 (5.3%) patients had associated GBC; 3 men and 4 women, with an age range of 48–73 years (median, 60 years). The clinical presentation's were pain (n = 6), jaundice (n = 6), cholangitis (n = 2), and pruritus (n = 2). Two patients had significant weight loss. The gallbladder (GB) was palpable in 1 patient.

All seven patients were evaluated by ultrasonography (US) of the abdomen. One patient was found to have a GB mass on US and underwent contrast-enhanced computed tomography (CECT), followed by FNAC from the GB mass.

Two patients required preoperative endoscopic retrograde cholangio-pancreatographic (ERCP) and biliary stenting because of the presence of cholangitis. The preoperative diagnosis was choledocholithiasis (n = 3), Mirizzi syndrome (n = 2), cholelithiasis (n = 1) and GBC (n = 1). Mirizzi syndrome was diagnosed in 5 patients preoperatively. Six patients were subjected to open surgery and one patient, with a preoperative diagnosis of cholelithiasis, received laparoscopic cholecystectomy, which was then converted to laparotomy because of dense adhesions in the right upper quadrant. The operative types of Mirizzi syndrome were type II (n = 5), type III (n = 1), and type IV (n = 1). All patients had diffuse thick-walled GB. Gallstones were present in all patients. Six patients had choledocholithiasis and one had associated choledocho-duodenal fistula. The various surgical procedures performed and the subsequent treatments offered for these patients are shown in Table 1. In patients 1 and 2 (Table 1) major resectional procedures