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Original Article

Cholecystectomy after Sphincterotomy for Preventing Recurrence in Elderly Patients with Acute Cholangitis

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SUMMARY

Background: laparoscopic cholecystectomy (LC) following endoscopic sphincterotomy (ES) in elderly patients with concomitant gallbladder stones remains a matter of debate.
Methods: We retrospectively collected data from 84 patients aged >65 years who had common bile duct stones (CBDS) with cholangitis and had undergone successful ES between July 2007 and October 2010. We divided the patients into 2 groups: the cholecystectomy and wait-and-see groups. We also compared two age groups, namely, the young-old (65–74 years) and old (>75 years) groups. The endpoint was the presence of symptoms indicating recurrence of biliary events.
Results: The recurrence rate was lower in patients who underwent subsequent cholecystectomy than in patients in the wait-and-see group. However, among the patients in the old group, the time to recurrence did not significantly differ between the cholecystectomy and wait-and-see groups. Univariate analysis showed that the presence of a juxtapapillary diverticulum (JPD) was an independent factor predicting recurrence.
Conclusion: Cholecystectomy after ES is recommended for patients with CBDS aged <75 years. JPD increases the recurrence risk in patients who do not undergo subsequent cholecystectomy.

1. Introduction

Common bile duct stones are a frequent complication of gallstones and are often associated with cholangitis and cholestatic hepatitis. The widely accepted treatment of choice for patients with these stones is endoscopic sphincterotomy, and subsequent laparoscopic cholecystectomy is often recommended for patients with gallbladder stones in situ in order to prevent biliary complications such as acute cholecystitis, biliary colic, recurrent biliary stones, cholangitis, and biliary pancreatitis. A randomized trial by Boerma et al. showed that the "wait-and-see" policy was not recommendable after ES in cases of combined cholecystodocholithiasis because of a high likelihood of a recurrent biliary events and surgical conversion.[1] However, in our experience, elderly patients, in particular, hesitate to undergo LC after ES because of the perceived higher risk for them or because they may be poor surgical candidates because concomitant chronic illness. Keizman et al. found that the recurrence rate of symptomatic CBDS after endoscopic therapy was high (20%) in elderly patients.[2] However, Yasui et al. reported that cholecystectomy may not be necessary after ES for CBDS in patients aged >80 years because the rate of overall biliary complications did not differ between cholecystectomized patients (8.3%) and those with the gallbladder in situ (7.4%) within this age group.[3] Thus, LC following ES in elderly patients with concomitant gallbladder stones remains a matter of debate.

Many studies have sought to elucidate the risk factors for development of biliary-related events after ES with the gallbladder in situ in order to identify suitable patients for subsequent LC. Several risk factors have been reported, including multiple small gallbladder stones, cholangitis at presentation, diabetes, and juxtapapillary diverticulum (JPD).[4] However, the results are controversial, and most studies do not specifically analyze elderly patients.

In the present retrospective study, we aimed to evaluate whether the wait-and-see approach is justified after ES in elderly

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patients and to identify factors predicting recurrent cholangitis after CBDS removal.

2. Methods

2.1. Patient characteristics and data collection

The Institutional Review Board of Mackay Memorial Hospital, Taipei, Taiwan, approved the protocol of this study. We retrospectively reviewed the cases of elderly patients (≥65 years of age) with acute cholangitis who had gallbladder stones and had successfully undergone ES and CBDS extraction at Mackay Memorial Hospital between July 2007 and October 2010. All patients underwent ultrasonography studies to confirm the presence of stone(s) in the gallbladder. We excluded patients who had previous cholecystectomy or endoscopic lithotripsy for biliary pancreatitis (Fig. 1).

The patients' personal and clinical demographics were recorded, including age, gender, white blood cell count, blood sugar levels, liver function test results, serum lipid levels, and diabetes mellitus status. Endoscopic retrograde cholangiopancreatography (ERCP) findings, including JPD and CBD dilatation, were recorded. A CBD diameter exceeding 7 mm was considered to indicate dilatation. In all cases, ES for CBDS removal was conducted at our institution using a four-wire Dormia basket and/or balloon retriever. Further, subsequent cholangiography revealed no residual filling defects in the CBD in any case.

After the patients were informed of the high probability of biliary complications in patients with CBDS, some decided against surgery because of issues such as advanced age, reactions to medications, possible complications, or the desire to return home until their health improved. Therefore, patients were divided into 2 groups depending on whether they decided to undergo subsequent LC within 4 weeks after ES (LC group) or whether they wished to defer LC and wanted to merely be observed (wait-and-see group). All patients were followed up at our outpatient department, and the endpoint was the presence of symptoms indicating recurrence of biliary events. The dates of ES, biliary event recurrence, and LC were recorded. Recurrent biliary events included cholangitis, cholecystitis, and biliary pancreatitis. We further assigned the patients into 2 groups according to age: 65–74 years (young-old group) and older than 75 years (old group).[5] We then analyzed the Kaplan–Meier curve for the time to recurrence in each group.

2.2. Statistical analyses

Statistical analysis was performed using the SPSS software. A two-sided p value of ≤0.05 was considered statistically significant. The distributional properties of continuous variables were expressed as mean ± standard deviation, whereas categorical variables were expressed as frequency and percentage. Univariate analysis using the Wilcoxon rank-sum test was conducted to compare the demographic and clinical characteristics between the groups of patients with and without recurrence. The Kaplan–Meier curve with the log rank test was performed to compare the cumulative recurrence rate between groups.

3. Results

A total of 84 elderly patients with acute cholangitis after ES were included in this study. The patients were divided into 2 groups based on whether or not they underwent LC subsequent to ES. The

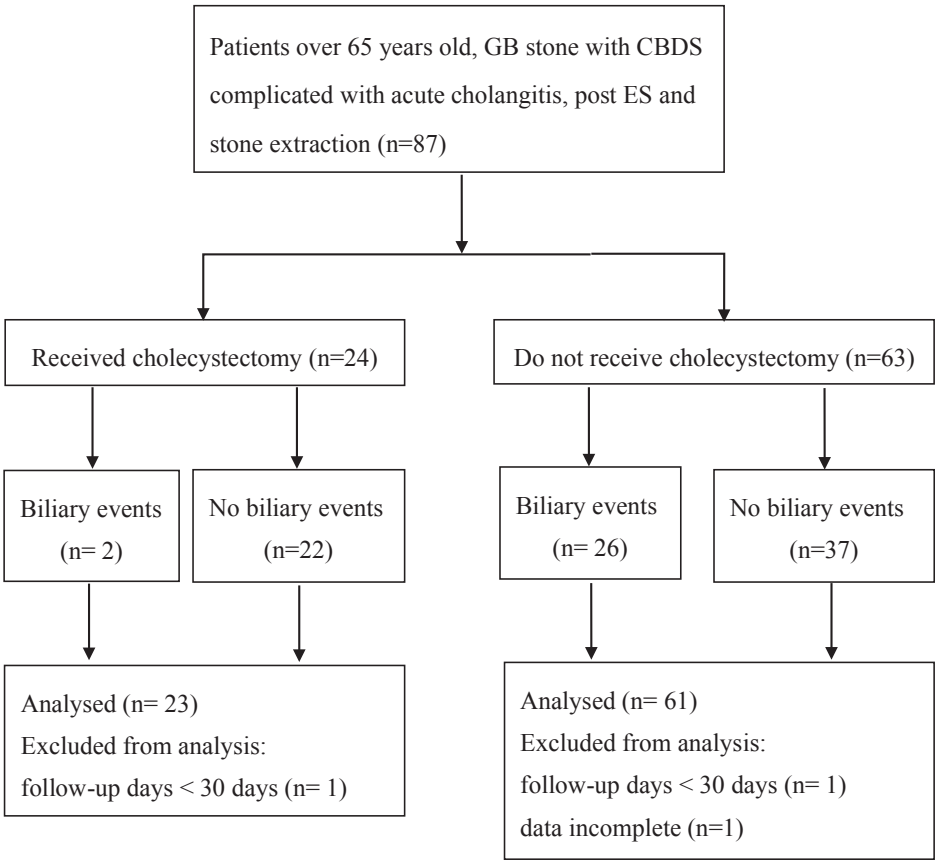

Fig. 1. Flow-chart for selection of target population.