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Single Case

Ascending Cholangitis due to Heavy Lifting

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Keywords

Cholangitis · Heavy lifting · Gallstones · Complicated gallstone disease

Abstract

Gallstone disease is the most common risk factor for cholangitis. In an anatomically normal bile duct system, cholangitis does not occur without the presence of stones. Endoscopic retrograde cholangiography with papillotomy and stone extraction is a well-established curative therapy for gallstones in the common bile duct. More important, papillotomy prevents recurrent episodes. The present case report describes a 73-year-old male with recurring cholangitis in a clear bile duct system after previous papillotomy. An etiology of duodenal reflux into the common bile duct due to heavy lifting is proposed.

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Introduction

Cholangitis is a well-known complication of gallstone disease, especially in case of stones in the common bile duct. The primary therapy is endoscopic retrograde cholangiography (ERC) with or without papillotomy and stone extraction. While cholecystectomy is

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curative with respect to stones in the gallbladder, the procedure does not change the quality of the bile. In 7–20% of patients undergoing cholecystectomy, stones are found in the common bile duct. Moreover, new stones may develop over time in the common bile duct. These stones are a frequent cause of cholangitis [1].

We describe the case of a patient with recurring episodes of cholangitis in a short period even after clearing the common bile duct of stones.

Case Presentation

A 73-year-old male patient was sent to the emergency department because of high fever (40°C) with chills and right upper abdominal colicky pain. He complained of nausea and had dark urine as well as jaundice. His medical history revealed a cholecystectomy 33 years earlier. Fifteen years before the current presentation he was diagnosed with stones in the common bile duct for which he underwent ERC, papillotomy, and stone extraction. He was without complaints until the current presentation. Laboratory results were consistent with cholestasis (Table 1). Ultrasound imaging showed dilated intra- and extrahepatic ducts with the suggestion of stones in the common bile duct. Aerobilia was present, and sludge was seen in the hilar region. The patient was treated for ascending cholangitis with fluid resuscitation and intravenous antibiotics. An ERC was performed. The previous papillotomy was not visible anymore, hence a new one was done. Many stones were extracted from the common bile duct.

The patient recovered well. However, 3 months later he experienced recurrent complaints. Ultrasound showed retained stones in the common bile duct. In two ERC sessions all these stones were removed. Contrast cholangiography showed complete clearance of the bile ducts.

Over the next 4 months the patient experienced four episodes of chills with a temperature of 38–39°C and right upper abdominal complaints without colics. The laboratory findings during these episodes are shown in Table 1. Repeated ultrasound investigations showed no abnormalities. The bile ducts were normal. On each occasion the patient received antibiotics, with excellent clinical response. Blood cultures remained negative.

Renewed medical history revealed that the patient had done heavy lifting work, such as moving furniture, the day before each of the four episodes. It was concluded that the repeated episodes of cholangitis resulted from reflux of duodenal contents into the common bile duct due to heavy lifting in the presence of a papillotomy. The patient was advised to refrain from further lifting. He has been doing well ever since. The cholangitis has not recurred for over 8 months.

Discussion

The present patient developed stones in the common bile duct for the second time since a previous cholecystectomy and a previous papillotomy. This is not unique. Around 10% of patients will develop micro- or macrolithiasis in the common bile duct after cholecystectomy. In a study from Korea, the stones occurred in 15 of 144 patients (10.4%) during a longer

follow-up period [2]. This was confirmed in several other studies [3–5]. Stones in the common bile duct usually originate in the gallbladder [6]. Risk factors for stone formation are bile duct dilatation, biliary stricture, and angulation of the common bile duct due to anatomical abnormalities [7, 8]. Already more than 20 years ago, papillotomy with stone extraction and biliary drainage was recommended in patient with ongoing cholangitis [9]. Whether cholecystectomy prevents recurrent cholangitis is a matter of debate. Hui et al. [10] studied in a prospective study recurrence of cholangitis in patients undergoing cholecystectomy or not and concluded that the surgical procedure did not prevent recurrence. However, papillotomy was found to be protective.

This case demonstrates once again that recurrent cholangitis can develop after incomplete drainage or retained stones [11]. Extraction is not always successful in one procedure. In a large study, 77% of cases underwent successful extraction in one session [12]. More importantly, this case describes recurrent cholangitis in a bile duct system without stones with previous papillotomy. To the best of our knowledge, this is highly extraordinary. The events are suggestive of a causal relationship between heavy lifting and cholangitis. Exercise of any kind will elevate intraabdominal pressure. Hence, it is plausible to assume that duodenal contents may reflux into the common bile duct in the presence of a papillotomy. This may cause bacterial cholangitis. A similar etiology of recurrent cholangitis was described in patients who had undergone biliary bypass or pancreatoduodenectomy [13]. The simple advice to abstain from heavy lifting has effectively helped our patient.

Statement of Ethics

The patient gave permission to publish his case.

Disclosure Statement

There are no conflicts of interest.

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Table 1. Laboratory results on the several occasions of presentation

	January	April	May	June	June	July	September
AST, U/L	94	357	350	–	116	40	83
ALT, U/L	163	346	32	33	111	39	70
GGT, U/L	1,486	816	161	193	495	204	249
ALP, U/L	420	143	100	137	176	173	159
CRP, mg/L	80	45	58	15	55	12	58
Bilirubin, $\mu\text{mol/L}$	40	75	23	13	45	15	23
Ultrasound	stones	stones	stones	na	na	na	na

Normal values: AST <35 U/L, ALT <45 U/L, GGT < 55 U/L, ALP <120 U/L, bilirubin <21 $\mu\text{mol/L}$. ALP, alkaline phosphatase; ALT, alanine transaminase; AST, aspartate transaminase; CRP, C-reactive protein; GGT, gamma-glutamyl transpeptidase; na, no abnormalities.