Case report

Incidental follicular cholecystitis with periductal fibrosis on liver biopsy: Rare findings

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ABSTRACT

Introduction and importance: Follicular cholecystitis (FC) is a rare entity found, it is found in 0.1–1 % of patients with chronic cholecystitis. 1,2 This pathologic finding has been associated with extrahepatic biliary obstruction distal to the gallbladder, such as primary sclerosing cholangitis, choledocholithiasis, and distal biliary strictures. Case presentation: Our patient is a 32-year-old female with a past medical history significant for obesity presented with symptoms of postprandial nausea and spasmodic abdominal pain. An abdominal ultrasound was performed with findings adenomyosis and possible gallbladder polyps or adherent stones. The patient was referred to surgery and a routine laparoscopic cholecystectomy with liver biopsy was performed. On pathology, the gallbladder was found to have chronic, active follicular cholecystitis with cholelithiasis. Percutaneous needle liver biopsy revealed the following: focal, mild periductal fibrosis, mild portal fibrosis with minimal mixed micro- and macrovesicular steatosis, and no significant steatohepatitis.

Clinical discussion: To the best of our knowledge, this is the first documented case of follicular cholecystitis with associated hepatic findings on pathology. Follicular cholecystitis is strongly associated with extrahepatic biliary obstruction distal to the gallbladder, but it has not been previously associated with liver fibrosis. We hope to bring awareness to this rare but significant pathology.

Conclusion: Our case is unusual due to the findings of hepatic periductal fibrosis with follicular cholecystitis. Follicular cholecystitis is strongly associated with extrahepatic biliary obstruction distal to the gallbladder but it has not been documented it to be associated with any hepatic findings or pathology.

1. Introduction and importance

Follicular cholecystitis (FC) is a rare manifestation of chronic cholecystitis, accounting for 0.08–11 % of all cholecystectomies [1]. In FC, the gallbladder tissue is composed almost exclusively of lymphoid follicles, with criteria being defined as 3 or more lymphoid follicles per cm of gallbladder tissue [1,2]. The lymphoid follicles may be found anywhere within the wall of the gallbladder but are most frequently found in the mucosal layer [2]. Though the pathology was first identified in Salmonella typhi patients in the early 1900s, the etiology remains unclear [1].

FC has many pathologic associations and is most often reported in conjunction with extrahepatic biliary obstruction distal to the gallbladder, including primary sclerosing cholangitis, choledocholithiasis, and distal biliary strictures [2]. Cases of FC have also been reported with chronic gastritis, follicular pancreatitis, and follicular cholangitis [2]. However, FC with concomitant hepatic pathology has not yet been described in the literature. Here, we present a case of FC in a 32-year-old female with hepatic periductal and portal fibrosis.

2. Methods

Our case report was reported in line with the SCARE 2020 criteria [3].

3. Case presentation

A 32-year-old female with past medical history significant for obesity presented with symptoms of postprandial nausea and spasmodic abdominal pain. Our patient did not have any significant past family
history, drug history or psychosocial history. She did not have any jaundice or bleeding tendencies. On exam, the patient was not jaundiced and did not have scratch marks to indicate pruritus. Lab work up included elevated aspartate aminotransaminase of 98 U/L (normal range, 8–33 U/L), alanine aminotransferase of 129 U/L (normal range, 4–36 U/L), elevated alkaline phosphatase of 229 IU/L (normal range, 44 to 147 IU/L), normal albumin, PT/PTT/INR, negative viral markers for Hepatitis A, B and C, and negative autoimmune markers. She was also tested negative for Wilson’s disease, alpha-1 antitrypsin deficiency, hemochromatosis. Esophagogastroduodenoscopy (EGD) was performed and demonstrated gross erosive gastritis with biopsies consistent with reactive gastritis. An abdominal ultrasound was performed with findings of adenomyosis and possible gallbladder polyps or adherent stones. The intra- and extrahepatic biliary ductal systems were non-dilated. Due to her persistent symptoms and no clear clinical diagnosis, the patient was referred to surgery and a routine laparoscopic cholecystectomy with liver biopsy was performed by a general surgeon. Intra-op, there was minimal blood loss and the liver was found to be soft, not enlarged and without obvious pathology noted on the surface of the liver. A liver biopsy was performed at this time due to elevated liver enzymes and alkaline phosphatase pre-operatively. On pathology, the gallbladder was found to have chronic, active follicular cholecystitis with cholelithiasis (Figs. 1 & 3). Percutaneous needle liver biopsy revealed the following: focal, mild periductal fibrosis, mild portal fibrosis with minimal mixed micro- and macro vesicular steatosis, and no significant steatohepatitis (Fig. 2). Immunohistochemistry was performed and no abnormalities were found, ruling out a malignant lymphoma in the setting of lymphoid hyperplasia.

4. Clinical discussion

Here we report the first documented case of FC with associated hepatic findings on pathology. FC is a rare diagnosis and has not been well described in the literature [4]. Differential diagnoses of FC include primary MALT lymphoma of the gallbladder, xanthogranulomatous cholecystitis, and gallbladder carcinoma [5,6].

Our patient was 32 years old at the time of FC diagnosis, which is significantly younger than the typical FC patient. In a large retrospective review of 19,262 cholecystectomy specimens, Salari et al. reports the age of FC diagnosis ranges from 31 to 95 years old, with the median documented age being 67 years old [1]. The average age of non-follicular cholecystitis diagnosis was determined to be slightly younger at 49 years old.

Salari et al. determined that 88.4 % of FC patients were noted to have at least one other pathologic finding in addition to FC, with extrahepatic biliary obstruction distal to the gallbladder being the most common [2].

5. Conclusion

Our case is unusual due to the findings of hepatic periductal fibrosis with FC. While FC has been strongly associated with extrahepatic biliary obstruction distal to the gallbladder, FC has yet to be reported in association with any hepatic findings or pathology. As cholecystectomy is one of the more prevalent operations for general surgeons, we hope to bring awareness to this rare but significant pathology and to suggest further clinical evaluation may be warranted to exclude a distal biliary tract obstruction in patients with histologic findings of FC with routine cholecystectomy.
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Ethical approval

Our institution does not require ethical approval for case reports.

Consent

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Research registration

N/a.

Guarantor

A guarantor form has been filled and submitted with the manuscript.

Credit authorship contribution statement

Authors A, B, C, D, E all contributed to the data collection, literature review and manuscript production.

Declaration of competing interest

Author A declares he has no conflicts of interest. Author B declares she has no conflicts of interest. Author C declares she has no conflicts of interest. Author D declares he has no conflicts of interest. Author E declares he has no conflicts of interest.

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