

Cholangiocarcinoma Complicated by Cholangitic Abscess: A Diagnostic Challenge

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ABSTRACT

Cholangiocarcinoma (CCA) is the second most frequent type of liver cancer, after hepatocellular carcinoma. The presence of luminal cholangiocarcinoma with cholangitic abscesses complicates diagnosis and management further.

Cholangiocarcinoma is one of the commonest liver tumours, and its complications do occur early in the disease course as it blocks the bile ducts. Cholangitic abscess is not one of the common complications, and patients present late because distinguishing it from other disorders is quite difficult.

Here, we discuss the case that encountered our hospital setting, discussing clinical signs and symptoms of cholangiocarcinoma with cholangitic abscess, emphasizing the importance of imaging findings from Computed Tomography (CT) and ERCP (endoscopic retrograde cholangiopancreatography) for accurate diagnosis.

As CT is readily available, it is the preferred modality because it can assess the original tumor as well as its complications, just like a cholangitic abscess, as in this case.

Keywords: Cholangiocarcinoma, cholangitic abscess, endoscopic retrograde cholangiopancreatography (ERCP), magnetic resonance cholangiopancreatography (MRCP), common bile duct.

INTRODUCTION

Globally, liver cancer ranks as the third most common cause of cancer-related mortality. Of all primary liver malignancies, cholangiocarcinoma (CCA) accounts for 10-15%. It is the second most frequent type of liver cancer, after hepatocellular carcinoma [1]. Cancers originating from the biliary epithelium are referred to as cholangiocarcinomas (CCAs). Extrahepatic cholangiocarcinoma (ECC) and intrahepatic cholangiocarcinoma (ICC) are two types of tumours that can develop anywhere along the biliary tree. ECC lesions are further subdivided into perihilar and distal lesions [2]. A mix of imaging modalities, including endoscopic retrograde cholangiopancreatography (ERCP) and magnetic resonance cholangiopancreatography (MRCP), is used to make the diagnosis. In addition to tissue biopsy for unambiguous confirmation [3].

Due to its comparable accuracy to CECT plus direct cholangiography, magnetic resonance imaging (MRI) has emerged as the preferred imaging modality for cholangiocarcinoma diagnosis and staging. Magnetic resonance cholangiopancreatography (MRCP), the most accurate noninvasive method for evaluating the biliary system, allows evaluation of tumor spread in bile

ducts both proximal and distal to the level of obstruction [4].

Intrahepatic cholangiocarcinoma is further subdivided into three types: bulk form, periductal-infiltrative type, and intraductal type. Periductal infiltrating type is the predominant macroscopic development pattern found in PHC, out of the three primary types. Periductal infiltrating PHC is characterized by submucosal longitudinal and circumferential dissemination, which has been shown to impede the evaluation of the margin. It also spreads beyond the wall of the bile duct and is frequently linked to perineural, vascular, and lymphatic invasion. Mass-forming and intra-ductal growing-type PHCs are uncommon and are linked to a lateral mucosal extension that can reach mean lengths of 10–20 mm, in contrast to intrahepatic cholangiocarcinoma [5].

Diagnosis and treatment are made more difficult when luminal cholangiocarcinoma coexists with cholangitic abscesses. The clinical picture of the disease is complicated. In order to provide optimal patient care, this combination necessitates a deeper understanding of the underlying pathophysiology, likely mechanisms of interaction, and challenges it presents [5].

CASE REPORT

History

A 75-year-old female with a known case of hypertension was admitted via ER with the complaint of

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yellowish discoloration of skin and sclera, weight loss, and decreased appetite. Initial baseline laboratory workup of the patient revealed raised TLCs and deranged LFTS. TLC count was $11500/\text{mm}^3$, and deranged LFTS include AST 80U/L and ALT level 94U/L.

Imaging

The patient came to the radiology department for an ultrasound, which demonstrated altered echotexture of the liver with a few hypoechoic areas in both lobes. Impression of the cholangitic abscess was made. For correlation with ultrasound findings, an enhanced CT abdomen with triphasic protocol was performed. CT showed mildly to moderately dilated IHDs with thickened walls of intra- and extra-hepatic biliary channels as well as of the gallbladder, and postcontrast nodular enhancement that raises the possibility of periductal cholangiocarcinoma. A few hypodense areas in both lobes of the liver were seen, representing cholangitic abscess. Moderate ascites was also appreciated (Fig. 1A-1F).

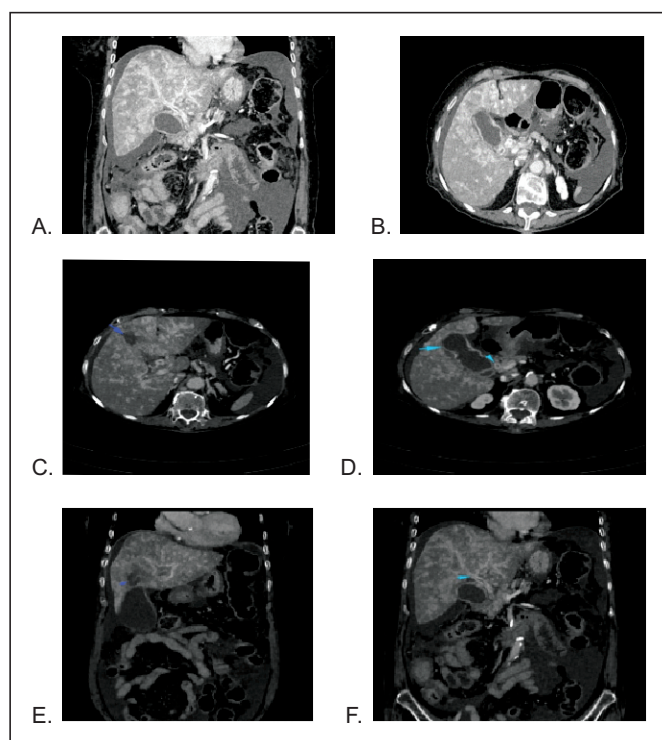


Fig. (1): (1A, 1E, 1F) (coronal) and (1B, 1C, 1D) (axial) show mild to moderately dilated intrahepatic ducts with thickened walls of intra- and extrahepatic biliary channels as well as of the gallbladder and postcontrast nodular enhancement that raises the possibility of periductal cholangiocarcinoma. A few hypodense areas in both lobes of the liver are seen, representing cholangitic abscess.

Further Workup

The patient was admitted to a monitoring setup, cardiac fitness was taken, and ERCP was performed, which showed a cholangitic abscess secondary to cholangiocarcinoma (Fig. 2). Along with that, a plastic

of 10F x 7cm was placed. The patient was kept on I/V antibiotics and followed on an OPD basis.

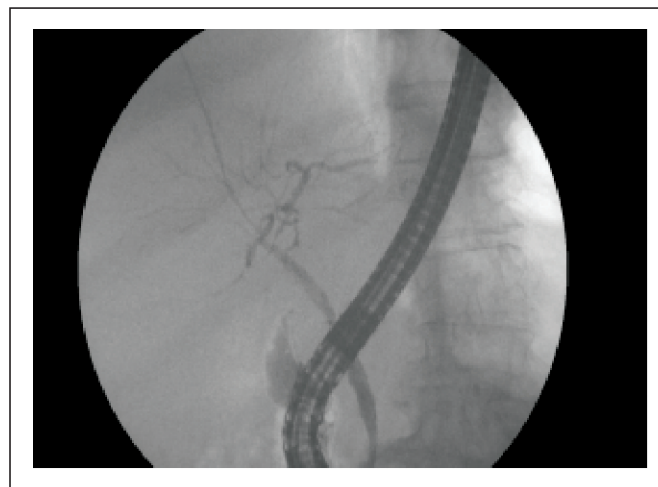


Fig. (2): This is the ERCP image. Contrast is seen to outline the intrahepatic ducts.

DISCUSSION

Cholangiocarcinoma with cholangitic abscess is a very rare presentation. Between 1.5% and 11% of patients with recurrent pyogenic cholangitis are found to have cholangiocarcinoma linked with it. In recent data, they have revealed that almost 6.1% cases are found of the cholangitic abscess with cholangiocarcinoma [6]. Another case reported in which a patient with the complaint of severe abdominal pain, chills, and fever underwent CT was diagnosed as a cholangitic abscess in the background of cholangiocarcinoma [7]. Bacterial infection brought on by cholangiocarcinoma-related biliary obstruction, which traps bile and fosters bacterial growth and proliferation in the bile ducts and surrounding liver tissue, is the cause of abscesses in cholangiocarcinomas.

An important risk in patients with advanced cholangiocarcinoma is intrahepatic metastases, which can lead to liver failure. Furthermore, other than cholangitic abscess, as in our case, mass-like lesions that restrict the bile flow might result in cirrhosis, liver atrophy, and significant deconditioning. There is a chance of both local intraperitoneal spread and distant metastatic illness [8].

CONCLUSION

A significant diagnostic and treatment difficulty arises when a patient with cholangiocarcinoma has cholangitic abscesses. It can be challenging to distinguish between the two disorders due to their potential overlap in clinical presentation. For instance, both may result in fever, jaundice, and stomachache. Furthermore. Because cholangiocarcinoma obstructs bile movement and creates a stagnant environment for bacterial growth, it can predispose to the formation of cholangitic abscesses.

CONSENT FOR PUBLICATION

The patient's permission has been obtained.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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