Giant Hepatic Abscess in a Patient with Ulcerative Colitis Under Anti-TNF Therapy

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Abstract

Pyogenic liver abscess (PLA) is a significant cause of mortality if left untreated, with an incidence of 1.07 to 3.59 per 100,000 people in Western countries. PLA can result from various etiologies, including choledocholithiasis, adjacent organ inflammations such as cholecystitis, diverticulitis, and appendicitis. Additionally, immunosuppression plays a key role in the development of PLA. Anti-TNF therapies are commonly used to treat both Ulcerative Colitis (UC) and Crohn's Disease (CD). Despite the widespread use of anti-TNF therapy in inflammatory bowel disease, pyogenic liver abscesses are rare in these patients. In this report, we present a case of PLA in a patient diagnosed with UC who was undergoing anti-TNF therapy.
Keywords: Anti-TNF therapy, hepatic abscess, ulcerative colitis.

INTRODUCTION

Inflammatory bowel diseases (IBD), including Ulcerative Colitis (UC) and Crohn's Disease (CD), are chronic inflammatory conditions of the gastrointestinal tract that are typically treated with immunomodulatory and/or immunosuppressive therapies. In addition to immunomodulatory therapies, there are numerous therapeutic options available for inducing clinical remission and maintaining remission. Anti-TNF therapies are generally the first-line treatment after immunomodulatory therapies in patients with clinically and endoscopically active IBD. Anti-TNF agents are effective for both remission induction and maintenance in UC and CD.[1]

Anti-TNF therapies are associated with several well-known short- and long-term adverse events, including activation of tuberculosis, an increased risk of certain malignancies, psoriasis, and serious infections affecting the skin, respiratory system, and kidneys.[2] In addition to these, liver abscesses are rare complications.

Here, we present a case of a patient with UC undergoing infliximab treatment who developed a pyogenic liver abscess (PLA). This case was successfully managed with percutaneous drainage and parenteral antibiotic therapy.

CASE PRESENTATION

A 59-year-old male patient was admitted to our clinic with fever, chills, and abdominal pain. He had a 13-year history of Ulcerative Colitis (UC). Initially, he was treated with 5-aminosalicylate (5-ASA) agents and azathioprine for approximately one year. However, he eventually lost response to these therapies. As a result, infliximab therapy was initiated, and he had been receiving infliximab for nearly 12 years. During this time, he experienced no bleeding or diarrhea, and his colonoscopy, performed one month prior to this admission, showed remission.

Laboratory tests revealed the following results: Hemoglobin: 13 g/dL, Leukocytes: 11,900/mm³, ALT: 396 U/L, AST: 248 U/L, ALP: 193 U/L, GGT: 145 U/L, Total bilirubin: 4 mg/dL, Direct bilirubin: 3.42 mg/dL, CRP: 278 mg/dL. Initial ultrasonography showed a heterogeneous, cystic lesion measuring 12.5 x 9 cm in diameter. To further assess this lesion, a dynamic liver CT was performed, revealing a hypodense, heterogeneous, and partially cystic lesion measuring 11.5 x 10 cm with multilocular septa and a thin peripheral rim-like contrast enhancement, consistent with an abscess. This lesion was located in the inferior section of the right lobe of the liver (Figures 1 and 2).

Initially, a biliary pathology such as biliary cholangitis was suspected. However, further detailed assessment through ultrasonography and CT findings ruled out this diagnosis. A percutaneous drainage catheter was then placed under fluoroscopy into the lesion, and purulent material was obtained (Figure 3). Bacterial culture of the material revealed the presence of Streptococcus constellatus. In response, meropenem and teicoplanin antibiotic therapy were initiated.

Figure 1. Hypodense, heterogeneous, and partially cystic lesion in the right lobe of the liver, observed in the coronal section.

Figure 3. Purulent material observed in the aspirate.

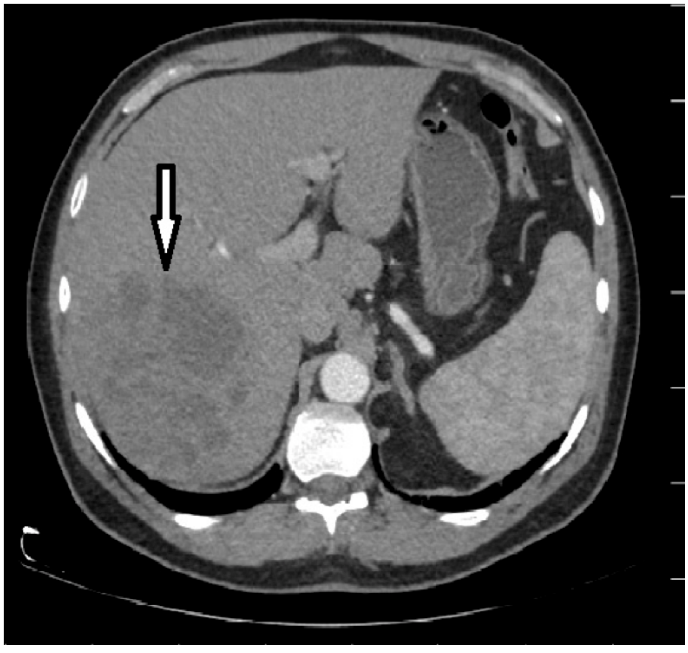

Figure 2. Abscess in the right lobe of the liver, observed in the axial section.

Under these therapies, the patient's symptoms resolved, and laboratory values improved. Two weeks after admission, CT imaging demonstrated significant improvement in the liver abscess. The percutaneous catheter was removed, and the patient was discharged after three weeks of hospitalization.

DISCUSSION

Several hepatobiliary conditions can be observed in patients with inflammatory bowel disease (IBD).[3] In some cases, the hepatobiliary system is affected as part of extraintestinal manifestations, while in others, it may be impacted due to adverse effects from medical therapies. Pyogenic liver abscess (PLA) in IBD is an extremely rare condition, according to the literature. Crohn's disease has a higher susceptibility to develop PLA compared to the general population; however, no such predisposition has been identified for Ulcerative Colitis (UC). In this case, we demonstrate that PLA can also develop in a UC patient undergoing anti-TNF therapy.

Liver abscesses are infrequently seen in IBD patients.[4] These abscesses can be either pyogenic or aseptic. Pyogenic liver abscess is a critical condition that requires prompt diagnosis and appropriate therapy. Microbial agents can reach the liver via different pathways. In some cases, adjacent inflammation, such as cholecystitis, may be the main source; in others, portal pyemia is the primary route for PLA.[5] In the general population without IBD, Klebsiella and E. coli species are the predominant pathogens. However, in IBD patients, Streptococcus species are more commonly the causative pathogens.[6] In our patient, consistent with the literature, Streptococcus constellatus was identified.

Aseptic abscess (AA) must also be considered in the differential di-

agnosis of PLA in IBD patients.[7] Histopathologically, these abscesses show abundant neutrophilic infiltration in the liver parenchyma. Aseptic abscesses can also be viewed as an extra-intestinal manifestation of IBD.[8] It is crucial to differentiate AA from PLA, and for this, the patient's clinical presentation and dynamic imaging are essential. Unlike PLA, steroids and infliximab have been successfully used to treat aseptic abscesses.[9]

Since their introduction in the treatment of inflammatory diseases such as IBD, various adverse events related to anti-TNF therapies have been described. Malignancies and infections are two of the most feared complications. Activation of tuberculosis, particularly in developing countries, is a significant concern. Other infections, including kidney infections, bacterial pneumonia, and bacterial arthritis, have also been reported in patients receiving anti-TNF therapies.[10] According to the literature, abscess formation is not a commonly described adverse event associated with anti-TNF use. However, given its immunosuppressive effect, clinicians should remain vigilant, as fever with right upper abdominal pain could signal a liver abscess in patients on anti-TNF therapies.

In summary, as with patients without IBD, early diagnosis and prompt therapy are critical for managing liver abscesses in IBD patients. Liver abscess should be considered in patients presenting with fever and right upper abdominal pain. Although uncommon in IBD patients, hepatic abscesses, as seen in our case, represent a rare but potentially severe condition.

Ethics Committee Approval: This is a single case report, and therefore ethics committee approval was not required in accordance with institutional policies.

Informed Consent: Written informed consent was obtained from the patient.

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