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Case Report

Liver Abscess: 16 Recurrences- Cause and Remedy: A Case Report

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Abstract

Liver abscess is a common clinical entity. First or second occurrence is not uncommon. But 16 recurrences at the same location, is most uncommon and not yet reported. A 56-year-old lady was having right lobar liver abscess periodically every 8-10 months, 16 times over 12 years. This was following a difficult laparoscopic cholecystectomy possibly with abnormal biliary anatomy requiring a choledochoduodenostomy and simultaneous hepaticojejunostomy. This surgical procedure looked odd but is possible in some situations. The hepaticojejunostomy developed stricture and was the cause of recurrent pyogenic liver abscess, while bile drainage from the distal choledochoduodenostomy was normal. The excision of the atrophied obstructed segments was curative for the patient.

Keywords: Liver abscess; Multiple Recurrences; Biliary Injury

Introduction

Liver abscess (LA) is a common clinical entity. There are two common types' namely amoebic liver abscess (ALA) and pyogenic liver abscess (PLA). PLA is more common to have recurrences but recurrent ALA is also reported [1]. However recurrent abscess for 16 times is not yet reported in literature.

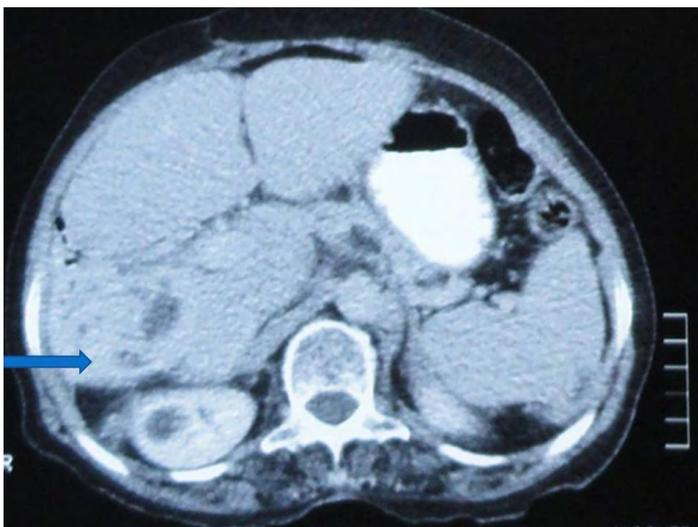
PLA associated with recurrent pyogenic cholangitis (RPC) tends to have distinct clinical syndrome in regards to extent of clinical manifestations, radiological features and microbiological patterns and complications. Its recurrence rate is higher than that of non-RPC type. However, both can be effectively treated with a combination of antibiotic and image-guided aspiration with/without drainage [2].

Case

A 56-year-old lady had presented with fever and right upper abdominal pain 12 years at the time of reporting back. The fever was of high grade ranging from 38-40o Celsius with associated chills. The abdominal pain was at the right upper abdominal area. Constant sharp pain was aggravated by deep inspiration and not related to food. A diagnosis of liver abscess was made based on ultra sound in the hospital, she was managed with antibiotics and metronidazole and after 3 days approx. 200 ml of pus was aspirated under ultra sound guidance. After aspiration her pain subsided and was discharged after 10 days of hospitalization. Same symptomatology has occurred every 8-10 months for the last 12 years at the time of reporting and she had 16 such hospitalizations prior to this at various hospitals. There was no history of cough, chest pain, frequency of urination or

jaundice any time during the 16 hospital admission. She was not a known diabetic and was not on any immune-modulator medication, nor did she consume alcohol. On examination at our hospital just two weeks after discharge from another hospital, she was asymptomatic. She had pallor and no other systemic abnormality. On abdominal examination there was a right sub costal scar of approx. 10 cm and a drain site scar. The liver was enlarged 4 cm below costal margin in the mid clavicular line and was soft, smooth and non-tender. On review of investigation the total leucocytes count (TLC) was in the range of 21,000/mm³ with 88% neutrophils. The alkaline phosphatase was elevated on many occasions. All other parameters were in normal range. No pus culture report was available. The diagnosis was ALA 15 previous times as per the patient's educated son. Diagnosis of ALA, elevated alkaline phosphatase, right sub costal scar of biliary surgery and 16 recurrences of liver abscess in a female with no history of alcohol consumption looked odd. On detailed interrogation about the abdominal surgery, she gave history of lap cholecystectomy, which was converted to open surgery. The surgery lasted over six hours and required two units of blood transfusion and post operatively bile leak for two weeks after which the drain was removed. On perusal of the discharge summary, there were three documented surgery of the biliary tree, namely "cholecystectomy, choledochoduodenostomy and hepatico-jejunostomy", and the first episodes started 6 months after the surgery, which looked confusing at that time. On evaluation at our centre, her hematological and biochemical parameters were normal. The amoebic serology was negative. The CT scan and the MRI liver (Figure 1 and 2) demonstrated, air in the biliary tree and one zone of atrophy (Segments VI & VII). Choledochoduodenostomy and hepatico-jejunostomy looked odd but the cross sectional imaging findings of atrophied liver segments gave a clue and the interpretation was done as per Figure 3.

Figure1. CT scan 9 atrophied segment-arrow).



The cause of recurrent abscess was explained to the patient and her family members and she was advised resection of the obstructed segments. The surgery was done under general an-

esthesia. Intra operatively there were two atrophied segments (VI & VII) with hypertrophy of other segments. Right posterior segmentectomy was done. The atrophied segments had dilated ducts full of stones and hardly any liver tissue (Figure 4). During the five years follow up she had no 17th attack and continued to be asymptomatic.

Figure 2. MRI T2 image with dilated ductal system in the atrophied area.

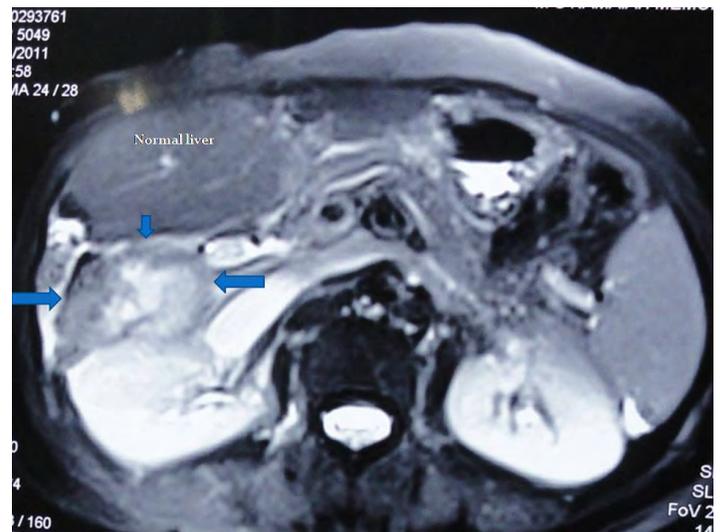


Figure 3.

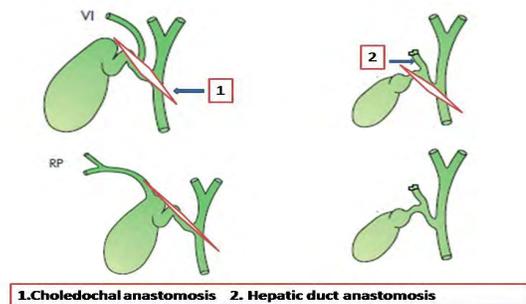


Figure 4. Cut section of specimen showing fibrosed liver, dilated ducts with stones.



Discussion

ALA and PLA are the two common varieties of liver abscess. ALA is the most frequent type in tropical areas and is very common in alcoholic males and immune-compromised patients [3]. It is rare in women in their reproductive age. The diagnosis of ALA in the Indian setting is likely, more so, when the location of abscess is in segment VII and VIII area and its solitary nature. But a menstruating lady, with no history of alcohol consumption, non-diabetes and not on immunosuppression, multiple recurrences was against the diagnosis of ALA. Differentiating between ALA and PLA is important as both have the same pathology but divergent treatments. But addition of imidazole therapy along with the systemic antibiotics solved the problem but gave the fallacious diagnosis of ALA as in this case. Low incidence of ALA in reproductive females is well documented in books. She had the first attack when she was still in the reproductive age group. It appears that the higher incidence of ALA in alcoholics is possibly due to their higher iron content [4]. Patients with ALA were more likely to be young males with a tender, solitary, right lobe abscess. Recurrence of ALA is described but less frequently whereas PLA is well known for its recurrences [5]. In a study involving 601 cases of liver abscess, four groups were identified. There were cryptogenic (25.3%), diabetic (38.1%), biliary tract disease (24%) and mixed (12.6%). The recurrences were cryptogenic (2.0%), diabetic (4.4%) and biliary tract disease (23.8%) respectively during the mean follow up of 6.06 years. Thus underlying biliary tract disease should be looked for in recurrent liver abscess irrespective of DM or cryptogenic status [6]. That was the reason we wanted to rule out any biliary cause in this patient. Jaundice is one of the important clinical finding in PLA [5], which was conspicuous by its absence in this case. This was because of involvement of only two segments which were undergoing atrophy and the rest of the liver was undergoing a compensatory hypertrophy, which was draining bile to the bowel. However the history of biliary surgery with two anastomosis and CT and MRI scan showing features of PLA, presence of atrophied segments and raised serum alkaline phosphatase were strong pointers in favour of a biliary cause. This was corroborated at surgery and excision of the atrophied segments proved curative. Percutaneous drainage may help to optimize clinical condition prior to surgery. Open surgical drainage is prudent in cases of rupture, multi-loculation or associated biliary or intra-abdominal pathology. Laparoscopic drainage is a feasible surgical option with promising results. Liver resection

is reserved for concomitant localised intrahepatic disease and tumour, after control of sepsis [7].

In this situation after multiple percutaneous aspirations of abscesses, there is a high probability of adhesion to the diaphragm and other surrounding structures and due care needs to be taken to avoid injury. One must take into account the rotation of portal structures in atrophy hypertrophy complex. Once the cause is eliminated cure is assured.

Conclusion

Surgically curable biliary cause of PLA must be thought of in patients with past biliary surgery with multiple recurrences and the cause must be eliminated for cure.

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