ANTERIOR ABDOMINAL WALL ABSCESS REVEALING A PYOGENIC LIVER ABSCESS - A CASE REPORT

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ABSTRACT

BACKGROUND

Liver abscess is a rare, life-threatening disease. It may be complicated by thrombosis of the portal system, the hepatic veins or by rupture of the abscess into adjacent structures (biliary tract, pleural and peritoneal spaces). We report a very rare case of liver abscess, which presented in our hospital as abdominal swelling. Liver abscess often presents with classical triad of right upper quadrant pain, fever and jaundice.[1] But in our case, it was an epigastric swelling with no classical features suggestive of liver abscess.

KEYWORDS

Liver Abscess; Abdominal Wall Swelling; Rupture.

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BACKGROUND

Pyogenic liver abscess is a purulent collection in the liver parenchyma, most often located in the right liver, but it may be found in the left liver and may be multiple or multilocular. It is a relatively rare disease whose prevalence increases. Its epidemiology has changed today with the preponderance of biliary and colic aetiologies.[2]

CASE REPORT

A 35 yrs. old male presented with,

- Abdominal swelling - 3 months
- Pain over swelling - 1 week
- H/o vomiting 2 episodes - not bile/blood stained
- H/o low-grade fever
- Loss of weight - 3 m
- No h/o abdomen fullness, constipation
- No h/o diarrhoea
- No h/o jaundice
- No h/o ball rolling movements
- Patient lived as a nomad for past 5 months
- Patient is a known alcoholic for 10 yrs.

General Examination

- Pallor +
- Not icteric
- No clubbing, no pedal oedema
- Undernourished
- Pulse - 85/min.
- Blood pressure - 110/70 mmHg
- Respiratory and cardiovascular system normal

On Examination

- Shape of the abdomen - normal contour
- Skin over the abdomen - normal
- All quadrants move with respiration
- No visible gastric/intestinal peristalsis

Abdomen Examination

- P/A soft
- No guarding
- No rigidity
- All quadrants move equally with respiration
- Swelling in epigastrium
- Abdomen swelling
- Swelling in epigastrium
- Size of about 10 * 7 cm
- Not warm
- Tenderness +
- Soft in consistency
- Smooth surface
- Restricted mobility
- Abdomen swelling
- Head raising test - swelling more prominent
- Fluctuation +
- Well defined
- No pulsation
- Percussion - dull note, no free fluid
- Bowel sounds +
- No audible bruit

INVESTIGATION

Lab Investigation

- Hb – 10.5
- Leucocytosis
- LFT - ALP, SGOT, SGPT elevated
- Hypoalbuminaemia
- Blood C/S CXR – no elevation of hemidiaphragm
- AXR, which showed no air under diaphragm

IMAGING

USG Abdomen

- Hypoechoic lesion measuring 10 * 7 cm in parietal wall tracking to liver
- 6 * 5 cm hypoechoic lesion in liver
- CBD normal.

CECT Abdomen

Left lobe liver abscess with parietal wall extension.

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Management
- IV fluids
- Broad spectrum IV antibiotics
- Analgesics
- Blood transfusion
- FFP transfusion

Plan
- Open Drainage

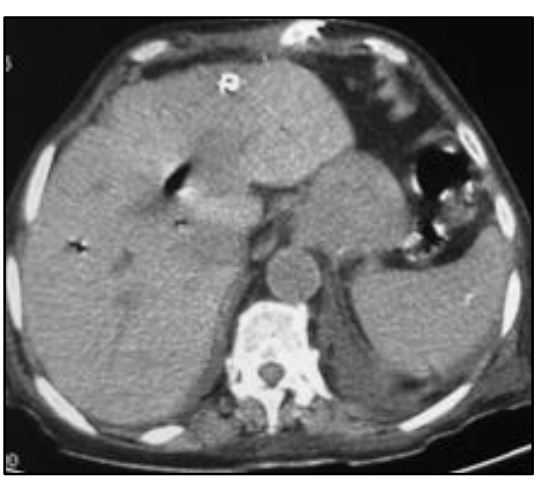
Intraoperative Findings
- Parietal wall abscess containing about 200 mL pus tracking along the falciform ligament to the left lobe of liver
- Necrosed rectus sheath and muscles of anterior abdomen
- No other intra-abdominal pathology

Procedure
- Pus drained sent for C/S
- Loculations in abscess cavity broken
- Abscess wall biopsy taken sent for HPE
- Irrigation and suction done
- Necrosed tissues excised and rectus sheath closed and skin wound left open for secondary healing
- DT kept in abscess cavity without spillage of pus in peritoneal cavity

Post-Operative
- Patient recovered post-operatively by 5th
- P.O.D.
- Pus c/s - E. coli, streptococcus species
- Appropriate antibiotics started according to sensitivity
- Abscess wall biopsy negative for malignancy
- Drain removed by 7th P.O.D.

DISCUSSION

Pyogenic liver abscesses are uncommon. Although the associated mortality is rare, morbidity and prolonged hospitalisation are common.[3] They are characterised by an infectious destruction of the liver parenchyma that may be of biliary origin (gallstones, cholangitis and malignancies), haematogenous, disseminated by the portal system (diverticulitis, inflammatory bowel disease, intra-abdominal inflammation and malignancies) and in a lesser degree it is related to a direct extension (superinfection of cysts or necrotic tissue and trauma). Nevertheless, in many cases (up to 25% of patients) no underlying cause is found and the disease is defined as cryptogenic.[4]



Axial CT image of the abdomen showing collapse of the abscess cavity.

Indeed in the case of single abscess, the most common cause is of cryptogenic origin (59%), while in case of multiple abscesses the most common cause is of biliary origin (45% of cases).[5] The most common pathogens are Streptococcus species, E. coli, Staphylococcus species and Klebsiella. E. coli is the most common organism found in abscesses of biliary or portal origin, while Gram-positive cocci account for most cases of haematogenous or cryptogenic disease.

The diagnosis of liver abscess is based on ultrasound and/or CT scan, and confirmed by percutaneous-needle aspiration to identify the bacteria causing the disease. However, before conducting such studies, the physician must suspect liver abscess based on the patient's symptoms or laboratory data.[6] The classic symptoms like fever, chills, malaise, nausea and jaundice, and most laboratory examination abnormalities are nonspecific and indicate systemic infections. Abdominal pain with painful hepatomegaly and abnormal liver function tests are more specific, but are not always present.[7]

Some patients may have less abdominal pain and more symptoms or examination abnormalities related to infection of the respiratory and urinary tracts causing missed diagnoses of liver abscess at emergency departments. Such patients may have serious local and systemic complications. In fact, inflammatory phenomena linked to hepatic sepsis may cause thrombosis of the portal system or hepatic veins.[8][9] More rarely, large abscesses may rupture either into the peritoneal cavity or into adjacent structures (including the pleural and pericardial spaces). To our knowledge, no case of rupture into the parietal wall of the abdomen has been reported before.[10]

In our case in addition to the specific and non-specific signs, the patient presented an abscess of the abdominal wall that has guided us towards performing ultrasound and CT scan in order to specify the depth extension of this collection.

Imaging allows the positive and lesional diagnosis of abscesses as well as allows searching their causes and complications. Ultrasound appearance of a liver abscess is highly polymorphic and less specific. The main contribution of ultrasound is to guide the diagnostic puncture or guide the percutaneous drainage. Liver abscesses may appear as hypoechoic cavities with thick or irregular borders, but a hyperechoic appearance is possible due to high protein content. They may be unilocular or with internal septa.

In CT scan, abscess appears as an uni- or multilocular poorly limited hypodense mass. The fibrous tissue around the abscess often measures one centimetre or thicker, and gradually merges into the liver parenchyma. A common finding is the presence of air in the cavity. After intravenous contrast administration there is a faint, thin, rim enhancement and perilesional oedema-image called "Target sign."

Once the diagnosis of liver abscess is confirmed, the treatment should be initiated urgently. Image-guided intervention and anti-microbial therapy are the mainstay of treatment, while open surgical intervention is rarely required. Several studies have shown that a large proportion of patients can be treated with excellent results by a combination of parenteral antibiotics (usually cephalosporins or quinolones plus metronidazole and/or aminoglycosides) and image-guided percutaneous drainage using continuous catheter

drainage, which is more efficient than repeated needle aspiration.[11][12]

However, surgery remains necessary after the failure of the initial treatment and should also be considered as an early intervention for cases presenting with gas-forming abscesses and septic shock and when treatment of the underlying cause is immediately required.

CONCLUSION

Abdominal wall abscess is a very rare complication of liver abscess, which is a serious condition requiring prompt diagnosis by imaging investigations. Treatment should be initiated urgently combining antibiotics adapted to the causative organism when it is found and imaging-guided percutaneous drainage. Surgery is exceptionally required and is limited, almost exclusively, to cases with failed percutaneous treatments.

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