

Case Report

Pseudomonas Associated Liver Abscess - PALA - In a Previously Healthy Adult

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ABSTRACT

The incidence of *pseudomonas aeruginosa* liver abscess (PALA) is around 2-6%. A case of 38 year old previously healthy male presented with fever, abdominal pain. He was diagnosed as having hepatic cyst on left lobe. The fluid was aspirated and sent for culture and sensitivity which revealed pure growth of *Pseudomonas aeruginosa* which was sensitive to Meropenem, and resistant to cefotaxime, ceftriaxone, ceftazidime, norfloxacin, ofloxacin, cotrimoxazole, amikacin, gentamicin, amoxicillin clavulanic acid, piperacillin tazobactam. Patient was treated with Meropenem for 7 days. He was told to review after a month. An USG taken during review was absolutely normal.

Key words: Liver abscess, hepatic cyst, pyogenic.

INTRODUCTION

Liver abscess are pyogenic with *Staphylococcus* being the commonest organism. The incidence of *pseudomonas aeruginosa* liver abscess (PALA) is around 2-6%. ^[1] Patients with PALA usually have an underlying chronic medical condition or a risk factor for *Pseudomonas* infection such as immunosuppressive drugs or disease. ^[2]

CASE REPORT

38 year old male presented with complaints of fever, abdominal pain on & off for 40 days. He also complained of cough, chest pain, and loss of weight on & off. Patient was a recently diagnosed of having diabetes mellitus since 1 month back. Patient was a known smoker and alcoholic since 5 years. There was no past history of tuberculosis, hypertension, recent surgery or instrumentation. The person was apparently healthy with no admissions. On

admission, he was febrile with a heart rate 100/min, blood pressure 120/80 mmHg. Mild pallor was present. There was no icterus or edema. Rest of the systemic examination was normal. He was started on intravenous fluids and ceftriaxone. Investigations on the day of admission revealed leukocytosis. Since patient was admitted with fever he was screened for malarial parasites, widal, blood serology for HIV, HBsAg, HCV, and RPR. All the test results were negative. His total counts were raised with neutrophil predominance. Blood glucose fasting and post prandial was raised and he was started on oral hypoglycemic agents, liver enzymes were elevated. His renal parameters were normal. Ultrasonogram results showed the presence of hepatomegaly with hepatic cyst on left lobe. USG findings were further confirmed by CT abdomen showed hypodense, cystic lesions on left lobe of liver which was once

again confirmed by contrast CT of abdomen. Blood culture results were

negative.

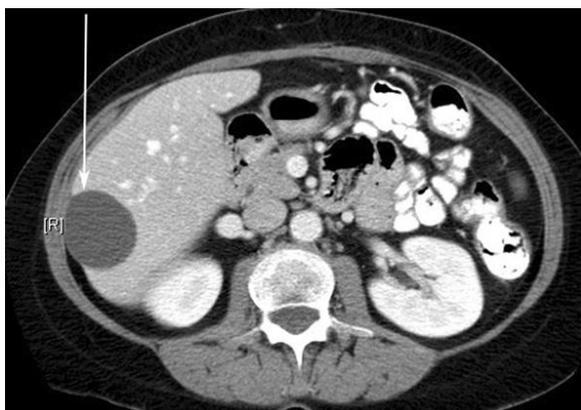


Fig 1: CT scan of abdomen showing hepatic cyst



Fig 2: Nutrient agar plate showing *Pseudomonas aeruginosa* colony

Patient continued to be febrile so he was started on chloroquine, metronidazole and ofloxacin. After five days of treatment the patient was febrile, tachycardia, tachypnoeic, with diminished breath sounds on right basal side. The abscess was drained under ultrasonographic guidance and about 85ml of fluid was drained. The aspirated fluid was sent for culture and sensitivity. Direct specimen stain showed the presence of moderate number of pus cells with occasional gram negative bacilli. The specimen was inoculated onto nutrient agar, Macconkey and blood agar plate which showed pure moderate growth of large spreading opaque colony with distinctive odour, which was oxidase positive and further biochemical reaction proved the isolate to be *Pseudomonas aeruginosa* which was sensitive to Meropenem, and resistant to cefotaxime, ceftriaxone, ceftazidime, norfloxacin, ofloxacin, cotrimoxazole, amikacin, gentamicin, amoxicillin clavulanic acid, piperacillin tazobactam. Review USG findings revealed that the cyst decreased in size, but remnants was present. Once again fluid was aspirated and around 30 ml of fluid drained. This time also the same organism was isolated. Patient was treated with Meropenem for 7 days. Patient improved clinically and was discharged after 7 days. On discharge patient was put on oral antibiotics and metformin. He was

told to review after a month. An USG taken during review was absolutely normal.

DISCUSSION

Pseudomonas aeruginosa is wide spread in the environment and is regarded as a trivial commensal of the skin, mucous membranes, and intestinal tract. [3] Community - acquired *Pseudomonas* infections are rare and mild in immune competent persons. There are only a few reports of severe *Pseudomonas* infections occurring in previously healthy persons. Pyogenic liver abscess presents with symptoms like fever, anorexia, vomiting, and abdominal pain. Unexplained anemia, cough, breathlessness, pyrexia of unknown origin, or fulminant sepsis are very rare presentations. The mortality rate in patients with PALA is approximately four times as compared to those having liver abscess due to other organism. [4] Since the morbidity and mortality are more, one should have a high index of suspicion when patients presents with atypical presentations.

The well known complications of pyogenic liver abscess are: Pleural/pericardial effusion, pneumonitis, fistula, Budd-Chiari syndrome, peritonitis, and hemobilia. Risk factors for complications include presence of jaundice, large/multiple abscess, acute abdomen, liver failure, and sepsis. [5,6] Left Lobe abscess have more complications so appropriate

antibiotics, supportive therapy, and percutaneous drainage form the mainstay of management. Radiological investigation must be sought, as their more sensitive in detecting location of cyst and identifying smaller abscess. USG and CT scan of abdomen play an inevitable role in this. Recurrences can take place, with most occurring within 3 months of treatment.^[7] If recurrences occur, some underlying immunodeficiency should be suspected.

CONCLUSION

In conclusion we would like to report *Pseudomonas* associated liver abscess in a previously healthy adult. Though liver abscess of parasitic origin is somewhat common, clinicians should be aware of this association as early diagnosis and appropriate intervention can affect the outcome significantly.

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