

## Case Report

# Cryptogenic Liver abscess by Group F Streptococci: A rare Case report

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## Abstract

Cryptogenic pyogenic Liver abscess is a condition in which no predisposing foci of infection is found in any part of the body. Group F streptococci causing pyogenic Liver abscess and Cryptogenic pyogenic Liver abscess is rare and is found to be important because of its association with peritoneal and pelvic neoplasm. Timely diagnosis, treatment, and follow up is important in these cases to find out the associated pathology. Here, we report a case of Cryptogenic Pyogenic Liver abscess by Group F Streptococci.

## Introduction:

Liver abscesses are caused by Bacteria, Parasites and Fungi. Microbiological detection and confirmation of the aetiological agent is important to institute appropriate antimicrobial therapy. [1] Pyogenic liver abscess (PLA) is a life threatening condition. Early diagnosis and timely intervention is important for treatment success and to reduce mortality and morbidity. [1,2] In the present medical scenario, there is considerable advancement in the management of these cases by imaging and percutaneous drainage techniques [3,4], assisted by specific aetiological diagnosis by microbiological characterization of the causative agent. [4] PLA results from ascending biliary tract infection, peritoneal infection, oral infections and haematogenous spread. However, the recent studies show that there is an increase in the frequency of patients with Cryptogenic Pyogenic liver abscess in which no specific foci of infection pre-

disposing to PLA could be identified. [2,5]

Etiologically, Gram negative organisms commonly inhabiting the gut and biliary tract are frequently the causative agents. [1,2] Rarely, the members of Streptococci are reported to be the causative agents of PLA and group F streptococci causing PLA reports are very rare. [6]

We present a case, in which our patient had Cryptogenic PLA caused by Group F Streptococci.

## Case report

A 60 year old male patient presented to our hospital with a 4 days history of pain abdomen, swelling in the right upper abdomen and fever. Pain was of dull aching type and was confined to right upper abdomen. A small swelling in the right upper abdomen was noticed by the patient four days prior to admission, and the swelling progressed in its size. Fever was associated with chills and rigors. He also complained of loss of appetite since 1 week and one episode of vomiting. There was no significant past medical history. Physical examination showed a mass in the right hypochondrium and epigastric region measuring 8 x 4 cm. Mass was smooth surfaced, non tender, was moving with respiration and was continuous with Liver dullness. Examination of other

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systems was normal. Laboratory investigations done on Blood showed Leucocytosis (Total WBC count – 31,900/ cmm) with neutrophilia. Platelets were 2,54,000/ cmm, HCT – 28.2%, INR – 1.98. Liver function tests showed increased Alkaline phosphatase and Gamma glutamate transferase. Renal function tests were normal. Ultrasound abdomen showed features suggestive of Liver abscess. Patient was started on intravenous Ceftriaxone. Surgically, under

aseptic conditions, percutaneous drainage of the abscess under USG guidance was done by Pig tail catheterization technique with continuous dependent drainage. Antibiotic therapy was continued. Microbiological investigation of the abscess aspirate yielded Group F Beta hemolytic streptococci. Blood culture yielded no growth. There were no other foci of infection in the body which could be attributed to as a cause for Liver abscess.



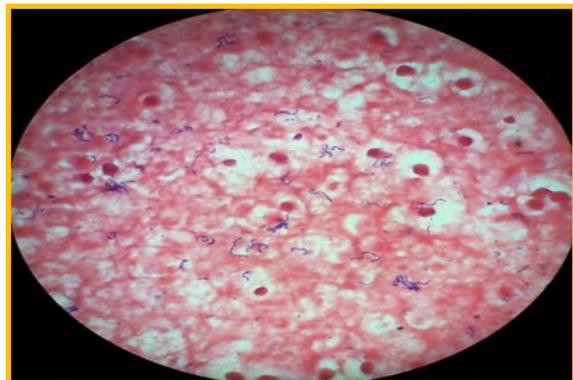
**Fig 1:** USG Abdomen: Large Liver abscess with 600ml pus



**Fig 2:** Pig tail catheterization with continuous drainage showing copious Thick Pus



**Fig 3:** Culture showing tiny  $\beta$ - haemolytic colonies on Blood agar Which agglutinated with Group F antisera



**Fig 4:** Grams stain of Pus – Pus cells with Gram positive cocci in chains

### Discussion:

Generally, PLA is associated with predisposing biliary tract or colonic disease; acute cholecystitis, choledocholithiasis, chronic pancreatitis, diverticulitis, colonic perforation, appendiceal abscess, malignant obstruction of the common bile duct, cholangiocarcinoma, pancreatic carcinoma, and carcinoma of the colon. [4] However, recent stud-

ies describe cryptogenic PLA, in which no specific lesion predisposing to PLA could be identified even after detailed search. [2,5] In our patient too, we could not find any foci of infection in the body which could be attributed to, as a cause of liver abscess. Etiologically, Gram negative organisms commonly inhabiting the gut and biliary microflora are frequently encountered; *E. coli* being the most common pathogen. [7,8] Members of the *Streptococcus milleri* group (SMG) are part of the

normal flora of human mucous membranes that are infrequent pathogens and Group F Streptococcus belongs to this group. There are few reports of these organisms being isolated from purulent infections of the mouth and internal organs including brain, liver, lungs, and spleen.<sup>[6, 9]</sup> SMG as a causative organism in hepatic abscess have been reported.<sup>[9,10]</sup>

SMG bacteria are usually opportunistic in nature with some reports suggesting its association with patients having multiple comorbid illness, neoplasm, and diabetes.<sup>[9,10, 11]</sup> They typically produce small colonies on culture with variable hemolytic properties and variable carriage of Lancefield group antigens including F, C, G, and A.<sup>[9]</sup> The isolate in this study had the small colony morphology with haemolysis, confirmed as Group F by streptex agglutination test. PLA should be managed by interventions like needle aspiration or catheter drainage.<sup>[3, 4]</sup> For small abscesses conservative or medical management is effective. However, for larger abscesses and left lobe abscesses, medical management plus intervention such as catheter drainage, results in high cure rates with surgical option reserved for complications such as peritonitis.<sup>[8]</sup> Percutaneous placement of an indwelling catheter is the method most widely preferred to drain liver abscesses.<sup>[4,5]</sup> The similar intervention was done for the patient in this report along with the antibiotic therapy (Ceftriaxone). The patient responded well to the therapy. On follow up, our patient was healthy and Ultrasound and CT showed no foci of infection, any pathology or neoplasm. He was advised for regular follow up because of the association of Group F streptococcus with the intraabdominal and pelvic neoplasm.

### Conclusion

If a hepatic abscess is identified, the source of infection should be traced. Liver abscess by Group F Streptococci in patients with no predisposing lesion can be attributed to many factors like chronic illness, immune compromised status and rarely as a guidance to impending malignancies from abdominal and pelvic organs. A timely diagnosis with good drainage followed by appropriate antibiotics is of importance. Regular follow up in these cases

can help in early detection of associated pathology and malignancies if any.

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