Cryptococcal Peritonitis in a Patient with Liver Cirrhosis: Case Report

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ABSTRACT - Disseminated cryptococcosis is generally seen in immunocompromised patients mainly associated with Human Immunodeficiency Virus. Spontaneous cryptococcal peritonitis among patients of disseminated cryptococcosis is a rare presentation, which is presented in cases with cirrhosis of liver. It can be confused with spontaneous bacterial peritonitis. Strong clinical awareness and index of suspicion in a cirrhotic patient with peritonitis as well as early diagnosis and treatment is required as it is difficult to distinguish from spontaneous bacterial peritonitis. We describe here a case of disseminated cryptococcosis with cryptococcal peritonitis in a cirrhotic male.

Key-words- Liver cirrhosis, Cryptococcosis, Cryptococcal peritonitis

INTRODUCTION
Liver disease in a non HIV diabetic patient is an important risk factor for the cryptococcal disease. Studies have reported the prevalence of cirrhosis to be 4.5%-9.5%.[1] According to the National Institutes of Health, cirrhosis is the 12th leading cause of death by disease.[2] Major complications of cirrhosis include ascites, variceal bleeding, hepatorenal syndrome, hepatic encephalopathy, spontaneous bacterial peritonitis, and portal hypertension. Due to immune dysregulation, uncommon pathogens become more common and virulent in these patients.[3] Because of the high morbidity and mortality, prevention, early diagnosis, and proper management of these infections are necessary to improve survival. Here we report a case of cryptococcus peritonitis in a cirrhotic male.

CASE REPORT
A 72 yrs male was admitted to our hospital with complaints of breathlessness and anasarca. His conscious level on Glasgow Coma Score scale for eye, verbal and a motor response was 10 (E3V3M4).

On Examination heart rate was 70/min, SpO₂ 100% on oxygen, blood pressure 100/50mm of Hg, bilateral crepitus and wheezing present, abdomen tense (ascites present), S1S2 normal, pallor present, icterus present.

Laboratory examinations revealed glycosylated haemoglobin 5.4, deranged liver function test, international normalized ratio 5.69, prothrombin time 64.2 sec, sodium 116mmol/l (predictive accuracy of MELD score increases by hyponatremia which is a common finding in decompensated liver disease), potassium 5.5 mmol/l total leukocyte count was 12.71x10⁹/L, hemoglobin 8.2g/dl, urea 201mg/dl, creatinine 4.07mg/dl. Child pugh's score was 13 and MELD score was 38. Ascitic fluid routine examination revealed: cell count 800/cu mm with a predominance of neutrophils and presence of encapsulated budding yeast cell. Ascitic fluid for culture and sensitivity was sent. Gram Stain showed Gram positive budding yeast cell. India ink was positive for Cryptococcus [Fig 1]. After 48 hours of incubation, it grew mucoid colonies of Cryptococcus. Blood culture (Bactec 9120) was positive on 4th day. Colonies were identified as Cryptococcus neoformans (vitek 2 Compact, biomek). Immediately patient was started on amphotericin B (25mg in 50ml normal saline over30min for 2days followed by75mg). Despite treatment patient’s condition deteriorated, urine output decreased continuously and a patient could not survive. The death could be attributed to progressive liver failure, hepatic encephalopathy, acute on chronic kidney disease with super imposed cryptococcal peritonitis.
Very few studies from India have reported CP in decompensated liver disease. The mortality rate is very high, ranging from 70 to 80%. In our case India ink preparation was performed immediately which showed encapsulated budding yeasts. This may emphasize the need for this test to be used for initial screening in suspected cases. The patient had a MELD score of 38 and Child pugh score 13 both of which showed a poor prognosis.

Treatment of cryptococcosis depends on the site and immune status of individuals. Guidelines for CNS cryptococcosis are well established but no specific guidelines exist for treatment of cryptococcal peritonitis. Prognosis in disseminated cryptococcosis with cirrhosis for HIV-negative patients with 30 day mortality is reported as 100% in one study. In HIV infected cases liver cirrhosis came out to be the strongest predictor of 30-day morality (hazard ratio 16.3). In 50% of the cases the process is said to be transudative which is also seen in our case.

CONCLUSIONS

We concluded in this study that spontaneous cryptococcal peritonitis in a patient with disseminated disease is a rare manifestation of *C. neoformans* infection. Grave prognosis is associated in cases where cryptococcosis is present with liver cirrhosis as seen in this case. Very few cases have been reported till date. Studies regarding prophylactic treatment for a cryptococcal infection in cases where there is history of a GI bleed and liver disease should be performed to draw a consensus towards an empirical therapy.

REFERENCES


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