Vol. 16, No. 1
ORIGINAL PAPER

MEDICINE

MEDICAL CHANNEL
JANUARY - MARCH 2010

SPONTANEOUS BACTERIAL PERITONITIS. AN EXPERIENCE AT CMCH LARKANA.

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ABSTRACT

OBJECTIVE: *To find out the organisms causing Spontaneous Bacterial Peritonitis (SBP) in cirrhotic patients.*
PLACE AND DURATION OF STUDY: *Department of Medical Unit-III, Chandka Medical College Hospital Larkana, from June 2008 to June 2009.*
DESIGN : *Descriptive Study*
PATIENTS AND METHODS: *One Hundred patients of either sex having cirrhosis of liver with ascites, were included according to the criteria i-e ascetic fluid leukocyte count > 500 cells or >250 polymorphonuclear (PMN) cells. Patients with history of antibiotics for one week prior to admission, malignant ascites and tuberculous ascites, were excluded from this study.*
RESULTS: *Out of 100 patients, 54 (54%) males and 46 (46%) were females. Male to female ratio was 1.2:1 and mean age was 51+ 12.49 years. Classic SBP was present in 54(54%) patients while culture negative SBP was present in 46 (46%) patients. E-Coli was isolated in 31 (57.40%) cases, klebsiella in 10 (18.15%), Streptococcus pneumoniae in 07 (12.96%), staphylococcus auerus 02 (3.70%), pseudomonas aeruginosa 02 (3.70%) and proteus mirabilis were present in 02 (3.70%) patients.*
CONCLUSION: *It is concluded that SBP is the common complication of cirrhosis of liver and E-Coli is the most common culprit.*

KEY WORDS: Cirrhosis, Spontaneous bacterial peritonitis, Portosystemic encephalopathy

INTRODUCTION

Cirrhosis is a general term of end stage liver disease which can have many causes. It results from necrosis of liver cells followed by fibrosis and nodule formation.[1] WHO has estimated that cirrhosis is responsible for 1.1 % deaths and comprises the 10th most common cause of death in USA.[2] Nothing is known about such figures in Pakistan, but definitely the problem seems much bigger in Pakistan. Usual presentations are upper gastrointestinal bleeding, Spontaneous bacterial peritonitis (SBP), portosystemic encephalopathy (PSE), hepatorenal syndrome (HRS), hepatopulmonary syndrome and hepato cellular carcinoma (HCC).[3] Ascites is frequent complication of cirrhosis and is associated with increased susceptibility to infections and poor long term out come.[4] SBP is characterized by spontaneous infection of asctic fluid in the absence of intraabdominal source of infections. [5,6] The SBP was first reported in 1893. [7] and its incidence in hospitalized patients with cirrhosis and ascites varies from 10-30 % in the west,[8] whereas in Pakistan it is 33% [9,10] Patient usually present with abdominal pain, fever with or without rigors, jaundice and PSE. [11] Diagnosis of SBP is based on clinical suspicion and analysis of ascitic fluid. In classic SBP bacterial culture is positive along with a leukocyte count > 500 cells / mm^3 or count of PMN >250 cells/mm^3 [12]. Whereas in culture negative neutrocytic ascites (CNNA), the ascitic fluid culture is negative and PMN cell count is similar to that of classic SBP [12]. In non neutrocytic, culture of ascitic fluid is positive but the leukocyte count is < 500 /mm^3 &/or PMN < 250 cells/mm^3. Most common organism causing SBP are E. coli, klebsilla pneumonia and proteus mirabilis [14,15]

PATIENTS AND METHODS

This descriptive study was conducted in Medical Ward III, at Chandka Medical College Hospital Larkana from 1st june 2008 to 30th june 2009 and included 100 patients with either sex, having cirrhosis of liver and Ascites after taking informed consent.

Inclusion Criteria
Patients of cirrhosis of liver with ascites irrespective of age, gender and etiology.

Exclusion Criteria
1. History of antibiotics in the last preceding week.
2. Malignant ascites.
3. Tuberculous ascites.

PROCEDURE
After full protocol of aseptic technique, 20 ml of fluid aspirated from each patient in a disposable syringe. 10 ml of ascitic fluid was sent in commercially available broth bottle (biphasic culture system) for bacteriological culture. Rest of the 10 ml fluid was sent for routine biochemical, gram straining, and cytological examination to a single central laboratory CMCH Larkana.

STATISTICAL TEST
Chi square test was applied; P value and standard deviation were calculated.

RESULT
Out of 100 patients, 54 (54%) were males and 46 (46%) females. Male to female ratio were 1.2:1 and mean age were found to be 51 ± 12.49 year Classic spontaneous bacterial peritonitis was present in 54 (54%) patients and culture negative neutrocytic ascites CNNA in 46 (46%) patients. Hepatitis C virus was detected in 68 (68%) cases, hepatitis B virus in 14 (14%), both HCV & HBV were present in 10 (10%), and both were absent in 6 (6 %) and 2 (2%) were having Wilson's disease (table I). Clinically 32 % patients presented with hepatic encephalopathy, 30 % with abdominal distension and tenderness, 22 % haemetemesis and maleness, 16 % with high grade fever, 12 % abdominal pain, and 10 % jaundice. The mean ascetic fluid PMN cells count typical SBP group was 1619.06/ mm. 54 (54%) samples of ascitic fluid showed positive culture reports E-coli was isolated in 31 (57.40%) cases Klebsiells 10 (18.51%), streptococcus pneumoniae in 07 (12.96%) and Staphylococcus aureus, Pseudomonas aeruginosa, Proteus mirabilis were present in 02 (3.70%) cases each

TABLE NO: I

n=100

ETIOLOGY OF CIRRHOSIS OF LIVER

	No: of Patients	AGE
HCV	68	68 %
HBV	14	14 %
Both	10	10 %
None	6	6%
Wilsons	2	2 %

TABLE NO: II

n=54

DISTRIBUTION OF PATIENTS ACCORDING TO THE MICRO ORGANISM

MICRO ORGANISM	NO: OF PATIENTS	PECENTAGE
E- Coli	31	57.40%
Klabsells pneumoniae	10	18.51%
Ststreptococcus pneumoniae	07	12.96%
Staphylococcus aureus	02	3.70%
Pseudomonas aeruginosa	02	3.70%
Proteus mirabilis	02	3.70%

DISCUSSION
This study demonstrates important aspect of SBP to improve its diagnosis and treatment level in patients with cirrhosis of any etiology. In our country cirrhosis is common and puts economic burdon for hospitals as Infections in cirrhotic patients are frequent, recurrent and associated with poor prognosis if left untreated.
Present study is concerned in determination of different microorganism causing Spontaneous bacterial peritonitis (SBP).
The Spontaneous bacterial peritonitis was detected as culture positive in 54% patients with cirrhosis. This figure is comparable to other local studies 51% by Iqbal and his colleagues at Peshawar. [16] and by Memon AQ Nawabshah [17]. 56% with classical SBP. But study from abroad Rubinstein P and his collegues in Urguay, [18] found an incidence of SBP upto 25.56% in cirrhotic patients. The probable reasons for such a high incidence in our set up, may be, late referral, ignorance, poverty and malnutrition. Majority of our patients first consult local hakim's, who claim that only remedy of hepatitis is a herbal medication; Out of 100 patients with SBP 54 (54%) have positive ascitic fluid culture. This figure little bit higher 42.15% with local study [19]. A study conducted in India by Jain AP and His collegues [20]. Stated that culture positive SBP was present in (81.81%) and culture negative neutrocytic Ascites (CNNA) in 18.18%. this figure is quite high as compared to our study.
The current study revealed etiology of cirrhosis in cases included to be 68% due to hepatitis C and 14% hepatitis B, both HBV and Hcv were present 10% cases, two patient with cirrhosis were suffering from Wilson's disease. It was proved in our study Hepatitis C was present in majority of cases. The highest frequency in our part of world may be due to unsterilized use of syringes blades by barbers, improper screening of blood during transfusion, are ear and nose piercing as a part of cultural tradition in female population.
The mean ascitic fluid PMN cell count in typical SBP group was 1619.06/mm. the mean PMN cell count was 1870.68/m in study conducted by Iqbals and his colleagues [16].
In our study E.coli was isolated in 31 (57.40%) cases that was comparable with other local study conducted by Iqbals and his colleagues, that shows frequency of E-coli was (58.13%).[16] Our figure is quite high as compared to study conducted in India by Jain AP, E-coli was present in 22.22% cases. Klebsiella in our study was 18.51% that is comparable to other studies by Sae RA Jung et al reported klebsiella pneumoniae 15%. Our study revealed that E-coli were the most common organism followed by klebsiella pneumonia.

CONCLUSION
It is conducted that spontaneous bacterial peritonitis is common complication of liver cirrhosis.
There is no sex discrimination both are equally affected
E. coli is the most common organism followed by klebsiella pnaemania, in spite of good antibiotic therapy the prognosis is poor and recurrence of SBP is common.

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