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. WHO has estimated that cirrhosis is responsible for 1.1 % deaths and comprises the 10th most common cause of death in USA. 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 hepatocellular carcinoma (HCC). Ascites is frequent complication of cirrhosis and is associated with increased susceptibility to infections and poor long term outcome. SBP is characterized by spontaneous infection of ascitic fluid in the absence of intraabdominal source of infections. The SBP was first reported in 1893. Its incidence in hospitalized patients with cirrhosis and ascites varies from 10-30 % in the west whereas in Pakistan it is 33%. Patient usually present with abdominal pain, fever with or without rigors, jaundice and PSE. 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 / mm3 or count of PMN >250 cells/mm3. Whereas in culture negative neutrocytic ascites (CNNA), the ascitic fluid culture is negative and PMN cell count is similar to that of classic SBP. In non neutrocytic, culture of ascitic fluid is positive but the leukocyte count is < 500 /mm3 &/or PMN < 250 cells/mm3.

Most common organism causing SBP are E. coli, klebsilla pneumonia and proteus mirabilis.

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 staining, 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% haematemesis 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. The probable reasons for such a high incidence in our set up, may be, late referral, ignorance, poverty and malnutrition. The current study revealed etiology of SBP up to 25.56% in cirrhotic patients. It is conducted that spontaneous bacterial peritonitis is common complication of liver cirrhosis. The probable reasons for such a high incidence in our set up, may be, late referral, ignorance, poverty and malnutrition. The probable reasons for such a high incidence in our set up, may be, late referral, ignorance, poverty and malnutrition.

**CONCLUSION**
It is conducted that spontaneous bacterial peritonitis is common complication of liver cirrhosis. There is no sex discrimination both are equally affected.

### TABLE NO: I

<table>
<thead>
<tr>
<th>MICRO ORGANISM</th>
<th>NO: OF PATIENTS</th>
<th>PERCENTAGE</th>
</tr>
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<tbody>
<tr>
<td>HCV</td>
<td>68</td>
<td>68%</td>
</tr>
<tr>
<td>HBV</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>Both</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Wilson's</td>
<td>2</td>
<td>2%</td>
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</tbody>
</table>

### TABLE NO: II

<table>
<thead>
<tr>
<th>MICRO ORGANISM</th>
<th>NO: OF PATIENTS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>E- Coli</td>
<td>31</td>
<td>57.40%</td>
</tr>
<tr>
<td>Klabsells pneumoniae</td>
<td>10</td>
<td>18.51%</td>
</tr>
<tr>
<td>Sttreptococcus pneumonia</td>
<td>07</td>
<td>12.96%</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>02</td>
<td>3.70%</td>
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<tr>
<td>Pseudomonas aeruginosa</td>
<td>02</td>
<td>3.70%</td>
</tr>
<tr>
<td>Proteus mirabilis</td>
<td>02</td>
<td>3.70%</td>
</tr>
</tbody>
</table>

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.
REFERENCES


