VALUE OF MACROPHAGE INFLAMMATORY PROTEIN-1 BETA IN DIAGNOSIS OF SPONTANEOUS BACTERIAL PERITONITIS IN CIRRHOTIC PATIENTS WITH ASCITES

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Abstract:

Background: Spontaneous bacterial peritonitis (SBP) is a popular unique feature of cirrhosis, associated with systemic and local immune impairment with exaggerated stimulation of pro-inflammatory cytokines. Macrophage inflammatory protein-1beta (MIP-1β) is produced by macrophages and interacts with chemokine C-C receptor 5 (CCR5). It is recognized for its chemotactic and pro-inflammatory influences.

Objective: to assess the value of MIP-1β measurement in serum and ascitic fluid for SBP diagnosis in liver cirrhosis.

Subjects and methods: This study included 44 patients divided into 2 groups (22 each); SBP and non-SBP. They were subjected to full history taking, clinical examination, abdomino-pelvic ultrasonography and laboratory investigations including complete blood count, liver biochemical tests, renal function tests and viral markers. Abdominal paracentesis and ascitic fluid analysis were performed. MIP-1β in serum and ascitic fluid was quantified by ELISA.

Results: This study showed significant increased number of patients suffering abdominal pain (p=0.004) and jaundice (p=0.001), or those who were Child-Pugh score class C and significant increased mean levels of TLC, serum bilirubin, creatinine and ascitic fluid TLC and PMN in SBP versus non-SBP. MIP-1β was significantly elevated in SBP versus non-SBP both in serum and in ascitic fluid. The optimal cut-off point for MIP-1β was 15.21 pg / ml in serum and 31.66 pg / ml in ascitic fluid. MIP-1β in serum had 81.8% sensitivity and 72.7% specificity. MIP-1β in ascitic fluid had 86.4% sensitivity and 81.8% specificity. Serum and ascitic fluid MIP-1β were significantly positively correlated with each other both in SBP and non-SBP. In SBP, serum and ascitic MIP-1β were positively correlated with serum creatinine and the ascitic MIP-1β was positively correlated with ascitic TLC and ascitic PMN.

Conclusion: MIP-1β could help diagnose SBP in cirrhotic patients. It might be of special importance in SBP patients with culture negative ascitic fluid.

Key Words: spontaneous bacterial peritonitis, MIP-1β

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