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Ascitic Fluid Calprotectin and Serum Procalcitonin as Accurate Diagnostic Markers for Spontaneous Bacterial Peritonitis

Statement of the Problem: The diagnosis of spontaneous bacterial peritonitis (SBP) is based on a polymorphonuclear leukocytes (PMNs) exceeding 250/µL in ascitic fluid. The aim of the study was to evaluate serum procalcitonin and ascitic fluid calprotectin as accurate diagnostic markers for detecting SBP.

Methods: Seventy-nine patients with cirrhotic ascites were included. They were divided into a SBP group, includ¬ing 52 patients, and a non-SBP group of 27 patients. Serum procalcitonin, ascitic calprotectin, and serum and ascitic levels of tumor necrosis factor α (TNF-α) and interleukin 6 (IL-6) were measured using an enzyme-linked immunosorbent assay.

Results: Serum procalcitonin and ascitic calprotectin were significantly higher in SBP patients than in non-SBP pa¬tients. Significant increases in both serum and ascitic levels of TNF-α and IL-6 were observed in SBP patients versus non-SBP patients. At a cutoff value of 0.94 ng/mL, serum procal¬citonin had 94.3% sensitivity and 91.8% specificity for detect¬ing SBP. In addition, at a cutoff value of 445 ng/mL, ascitic calprotectin had 95.4% sensitivity and 85.2% specificity for detecting SBP. Both were positively correlated with ascitic fluid proteins, PMN count, TNF-α, and IL-6.

Conclusions: Ac¬cording to our findings, determination of serum procalcitonin levels and ascitic calprotectin appears to provide satisfactory diagnostic markers for the diagnosis of SBP.

Recent Publications

1. Burri E, Schulte F, Muser J, Meier R, Beglinger C. Measurement of calprotectin in ascitic fluid to identify elevated polymorphonuclear cell count. World J Gastroenterol 2013;19:2028-2036.
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Biography

Nasser Mousa, Professor of Tropical Medicine and Hepatology, Faculty of Medicine, Mansoura University, Egypt. I am a teaching faculty. M.D in Tropical Medicine in 2006 from Mansoura University, Egypt. Research interest: Chronic hepatitis, Liver cirrhosis, Portal hypertension, Hepatocelluar carcinoma, infection in cirrhotic patients.

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