

World Congress and Exhibition on **Antibiotics**

September 14-16, 2015 Las Vegas, USA

Analysis of ascitic fluid lactoferrin levels in the diagnosis of spontaneous bacterial peritonitis after systemic antibiotic treatment

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Aim: Spontaneous bacterial peritonitis (SBP) is one of the most frequent complication of liver cirrhosis. Ascitic fluid lactoferrin has been proved to be a good diagnostic tool for SBP. However, lactoferrin in ascites may be checked after antibiotic used in some of these patients. Our study is to assess the utility of ascitic fluid lactoferrin levels for the diagnosis of SBP after antibiotic treatment.

Materials & Methods: Twenty-two ascites samples were collected from patients with cirrhosis. Samples were examined for bacterial culture, lactoferrin concentration, and polymorphonuclear leukocyte count. Clinical symptoms and indications for ascites paracentesis were obtained from medical records. The diagnosis of SBP was made based on an elevated ascitic fluid polymorphonuclear leukocyte count of ≥ 250 cells/mm³.

Results: Four (18.1%) samples fulfilled the diagnostic criteria for SBP. There were 3 ascites samples with a positive result for bacterial culture. Patients who received antibiotics other than those for treatment for SBP were classified as group B (n=9), whereas those who did not receive any antibiotics comprised group A (n=9). Lactoferrin concentration was significantly elevated (mean: 261.69 ± 145.5 ng/mL) in the 3 cases with a positive bacterial culture compared with those without SBP, in both group A (mean: 419.64 ± 6.32 ng/mL, $p = 0.002$) and group B (mean: 23.64 ± 9.53 ng/mL, $p = 0.001$).

Conclusion: After systemic antibiotic treatment, elevated lactoferrin levels in the ascites of cirrhotic patients appear to be a promising predictor for the presence of SBP with a positive ascitic bacterial culture.

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