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Molecular detection of monocyte chemotactic protein-1 polymorphism in spontaneous bacterial peritonitis patients

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To investigate the association of the functional monocyte chemotactic protein-1 (MCP-1) promoter polymorphism (A-2518G) with spontaneous bacterial peritonitis (SBP). Fifty patients with post-hepatitis C liver cirrhosis and ascites were categorized into two groups; group I included 25 patients with SBP and group II included 25 patients free from SBP. In addition, a group of 20 healthy volunteers were included. We assessed the MCP-1 gene polymorphism and gene expression as well as interleukin (IL)-10 levels in both blood and ascitic fluid. A significant MCP-1 gene polymorphism was detected in groups I and II ($P=0.001$ and 0.02 respectively). Group I was associated with a significantly higher frequency of AG genotype [control 8 (40%) vs SBP 19 (76.0%), $P < 0.001$], and group II was associated with a significantly higher frequency of GG genotype when compared to healthy volunteers [control 1 (5%) vs cirrhotic 16 (64%), $P < 0.001$]. Accordingly, the frequency of G allele was significantly higher in both groups (I and II) [control 10 (25%) vs SBP 27 (54%), $P < 0.001$ and vs cirrhotic 37 (74.0%), $P < 0.001$, respectively]. The total blood and ascetic fluid levels of IL-10 and MCP-1 gene expression were significantly higher in group I than in group II. Group I showed significant reductions in the levels of MCP-1 gene expression and IL-10 in the whole blood and ascetic fluid after therapy. MCP-1 GG genotype and G allele may predispose HCV infected patients to a more progressive disease course, while AG genotype may increase the susceptibility to SBP. Patients carrying these genotypes should be under supervision to prevent or restrict further complications.

Biography

Maysa Kamal Salama has completed her PhD from Cairo University School of Medicine. She was the head of Medical Biochemistry and Molecular Biology Department. She has published more than 30 papers in reputed journals and serving as an Editorial Board Member of repute.

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