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Title: Association of Pro-Inflammatory Cytokine Gene Polymorphisms and Risk of Hepatitis C Related Hepatocellular Carcinoma

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Abstract

Hepatocellular carcinoma (HCC) represents a classic paradigm of inflammation-linked cancer, as more than 90% of HCCs arise in the context of hepatic injury and inflammation. Pro-inflammatory cytokines have significant effects in the process of liver damage and carcinogenesis. Recent studies have suggested that the basic level and biological activity of Tumor Necrosis Factor-α (TNF-α), Interleukin (IL)-6 can be influenced by gene polymorphism, which may increase the risk of HCC.

Methods: Fifty five CHC and 60 HCC patients were enrolled in this study and compared with 50 healthy individuals. Genomic DNA was extracted from the peripheral blood. The allele and genotype frequency of the two Single Nucleotide Polymorphisms (SNPs) were determined using Real Time polymerase chain reaction (RT-PCR) assay.

Results: The frequency of the TNF-α (308) G/A, G/G, A/A was significantly different in patients with HCV comparing to controls (p=0.01). Moreover, there was highly significant difference in allele frequencies between HCC and HCV groups (p=0.001). There was no significant difference in allele and genotype frequencies of IL-6 at position 572 in HCC patients.

Conclusion: Certain alleles, genotypes, and haplotypes in TNF-α, but not IL-6, gene were over epresented in patients with CHC, which may, in turn, predispose to HCC

Speaker Biography:

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She received her bachelor degree of medicine and surgery, Master and MD degrees in clinical and chemical pathology from Cairo University (Kasr Al Aini), Egypt. She is working in Theodor Bilharz Research Institute (TBRI) from 1992 till now. She was appointed as a professor of Haematology at TBRI in 2017.

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