

5th World Hematologists Congress

August 18-19, 2016 London, UK

Possible role of anti-inflammatory cytokine gene polymorphism in AML susceptibility, Egypt

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Background: Acute myeloid leukemia (AML) is a cytogenetically and molecularly heterogeneous diseases and characterization of transforming genetic events is becoming increasingly important. Interleukins (ILs) are a diverse set of small cell signaling protein molecules. Single nucleotide polymorphisms (SNPs) of ILs alter their function, increasing susceptibility to different diseases.

Aim: We investigated the association between polymorphism in interleukin-10 (IL-10) -819T/C (rs1800871) and the risk of AML in the Egyptian population.

Methods: DNA was isolated from bone marrow of 80 newly diagnosed adult AML patients and 85 age and sex matched controls. Genetic analysis of IL-10 SNPs at -819T/C was assayed by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP).

Results: Genetic analysis of IL-10 revealed that the Egyptians have high -819 T allele frequencies in apparently healthy controls while -819CC genotype and the -819C allele frequencies in the AML group were higher than in the controls ($P=0.000086$). The study suggested that subjects carrying the rs1800871CC genotype and C allele had a significantly increased risk for AML.

Conclusion: IL-10 SNP at -819 was associated with enhanced AML risk, suggesting that rs1800871 provides clue for future studies and early detection of AML in the Egyptian population.

Biography

Reham Ahmed Rashed has completed her PhD from Cairo University and Postdoctoral studies from National Cancer Institute, Cairo University, Egypt. She is an Assistant Professor in the Hematology Department of National Cancer Institute. Her research objectives focusing: The search and study on the diagnosis, prognosis and treatment of different types of leukemia and lymphoma with other solid tumors. She has published more than 10 papers in reputed journals.

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