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Investigation for polymorphisms of caspase 3 and caspase 9 gene and enzyme levels in leukemia patients

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For understanding of leukemia and treated with early diagnosis, it should be investigated molecular changes that occur during the development of leukemia. Apoptosis is central to the development and homeostasis of the hematopoietic system. Previous studies have reported that leukemia cells invariably have abnormalities in one or more apoptotic pathways. The current study investigated the relationship between polymorphisms of caspase 3 G>T rs4647601 and caspase 9 A>G rs4645978 and leukemia. Besides that we aimed to determine caspase 3 and caspase 9 enzyme levels possible effects on the risk of developing leukemia. The case group consisted of 100 patients (Mean age: 56±03) who had been newly diagnosed with leukemia at the Department of Hematology, Mersin University Faculty of Medicine, Turkey. The control group comprised of 100 healthy properly age and sex matched individuals (Mean age: 54±15) with no history of leukemia. The genotypes detected by using Real-Time PCR. We measured enzyme levels of caspase 3 and 9 in serum which obtained from blood samples. No significant association was observed between caspase 3 G>T rs4647601 and caspase 9 A>G rs4645978 polymorphisms and leukemia. We found that median levels of caspase 3 and 9 were higher in leukemias than in normal blood cells ($P<0.001$). This is the first study reporting the detailed distribution of alleles and genotypes of caspase 3 and caspase 9 in leukemia patients in Turkish population. Taken together, we conclude that caspase 3 and caspase 9 levels may useful for the early diagnosis of leukemia.

Biography

Nazan Eras was graduated from Dicle University, School of Medicine, Diyarbakır in 1995. She has completed her MSc in 2006 and PhD in 2012 at Mersin University, Faculty of Medicine, Department of Molecular Biology and Genetics. She has published more than 39 papers and announcement in journals and has been serving as Reviewer in journals. She still continues to work as a Medical Doctor at Ministry of Health Turkey. Her research interests include clinical cancer genetics, human molecular genetics and oxidative stress.

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