Microsatellite polymorphism in exon 1 eRF3 gene and its association with risk of prostate cancer

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Prostate cancer is a multifactorial disease with genetic and environmental factors in its etiology. It is the second leading cause of cancer death after skin cancer in men in Iran. Eukaryotic translation release factor 3 (eRF3) is a GTPase that by binding to eRF1 cause translation termination in the GTP dependent process. It is also involved in cell cycle regulation, recycle of ribosomes and apoptosis. The N-terminal domain of eRF3 contains a polyglycine expansion encoded by a repeated (GGC)n tract in eRF3/GSPT1 exon 1 gene. In this study the relationship between GGC repeat
polymorphism in exon 1 of eRF3 gene and prostate cancer risk in Isfahanian population has been investigated. The GGC repeat sequence was amplified by PCR technique and the length of products was determined by polyacrylamide gel and direct sequencing. Five different length of GGC repeat (7, 9, 10, 11, 12) were observed. The most common allele in both controls and patients was 10 GGC repeats. The existence of relationship between eRF3 gene GGC repeats number and prostate cancer, can be used to identify prone people to this disease. 

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