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Association between the C161T polymorphism of the PPARγ gene and Asthenozoospermia infertile men referred to Royan Institute

Leila Dayani
University of Science and Culture- Faculty of Basic Sciences and Advanced Technologies in Biology, Tehran, Iran

Abstract

Peroxisome proliferator activator receptor gamma (PPARγ) is a nuclear transcription factor, which mainly regulate the expression of target genes involved in lipid and energy metabolism. Energy from glucose and fat metabolism mediated by PPARγ signaling is required for sperm motility, affecting male fertility. In the testis, PPARγ protein is detected at high expression in Sertoli cells& weak expression in spermatocytes. One of the most important single nucleotide polymorphisms of this gene is the C161T polymorphism, that it is in linkage disequilibrium with mutations in other regions of the gene that regulate the activity of PPARγ, whose association with asthenospermia has not been studied so far.

Methods: In this case-control study DNA extracted from blood samples of 60 infertile men with asthenospermia and 70 fertile controls.

PCR-RFLP (Restriction Fragment Length Polymorphism) with Pml1 enzyme was performed to screen the aforementioned polymorphism, and confirmed by sequencing.

Results: Results showed that out of 60 infertile men, 73.33% had CC genotype, 25.00% had CT genotype and 1.66% had TT genotype. Of the 70 fertile controls, 72.85% had CC genotype, 27.14% had CT genotype and 0% had TT genotype ،There is no significant association between two groups (P=0.748).

Conclusion: It is concluded that C161T polymorphism cannot be a risk factor for asthenozoospermia infertile men in the current sample size of Iranian populations.

Biography:

Bachelor of cellular molecular biology Branch: microbiology Institute/University: Tehran shomal (2011-2014) Master of cellular molecular biology Institute/University: University of Science and Culture (Royan) (2017-2019)

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