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Relative telomere length is associated with azoospermia in Iranian men comparing healthy fertile subjects

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Objective: Telomeres are specialized terminal capping structures at the end of eukaryotic chromosomes composed of TTAGGG repeats and a variety of proteins such as shelterin and telomerase. There are some telomere related diseases including male infertility that reveal the importance of repeat size in the disease occurrence.

Aim: In this research study, we intend to explore possible relationship between leukocyte telomere lengths with azoospermia.

Methods: In this case control study, peripheral blood was taken from 30 idiopathic infertile and 30 healthy and fertile men referred to several infertility clinics in Tehran. Following to DNA extraction, telomere length was determined by a quantitative real-time PCR-based method using specific primers to the telomere region and a single copy housekeeping gene. The relative telomere length was measured according to a comparison between T/S ratios in patients and controls. The results were analyzed by SPSS and REST software.

Results: Interestingly, the relative leukocyte telomere length (T/S) of Azoospermic men was found to be significantly lower (95% CI, p=0.000) when compared to controls (0. 54 vs. 0.84) meaning telomere length in the case group was significantly lower than those of the control group (95% CI, p=0.000).

Conclusion: Blood could be an informative and easy access tissue to study telomere size as a new genetic marker for determining a group of men with infertility problem due to the determinant. The same investigation using a bigger population of patient- control will evaluate the present findings.

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