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Poster Presentations

P-100

The role of STK31-hsa-circ-0133980, LRWD1-hsa-circ-0003327 in the spermatogenesis and sperm quality from semen samples with different factors of male infertility

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Background: Male infertility is responsible for approximately 50% of infertility. It has been reported that some circularRNAs can act as biomarkers in the diagnosis and treatment of various types of infertility and in fact, may play an important role in regulation of gene expression and spermatogenesis.

Objective: Evaluation of the expression of STK31-hsa-circ-0133980, LRWD1-hsa-circ-0003327 in the normal semen samples (fertile men) and their expression changes in different groups of infertile men.

Materials and Methods: For this study, semen samples were collected from infertile men with different factors of male infertility and fertile men (control group) from IVF center. Part of each sample

was used to analyze the expression of STK31-hsa-circ-0133980, LRWD1-hsa-circ-0003327 as well as the expression of genes related with sperm apoptosis (e.g., BAX, BCL2, and Caspase3) using Real Time-qPCR. Also, another part of the same semen samples was used to evaluate sperm quality such as evaluation of chromatin condensation (aniline blue staining), chromatin integrity (toluidine blue staining), and sperm membrane integrity (eosin-nigrosine staining).

Results: It was observed that gene expression in different groups of infertile men was different compared to the control group. Based on the results, it was observed that the morphology, motility and concentration of sperm in the oligozoospermia, teratozoospermia, oligoasthenoteratozoospermia groups were lower than normal compared to the control group.

Conclusion: According to the results, there is a relationship among changes in the STK31-hsa-circ-0133980, LRWD1-hsa-circ-0003327 expression, male fertility potential, sperm quality and spermatogenesis. So that this relationship may indicate the potential of male fertility. Therefore, the analysis of these biomarkers can help to better understand the fertility potential of men and assisted reproductive techniques (ART) outcomes.

Key words: CircularRNA, Spermatogenesis, Male infertility, Sperm, Semen quality.