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Sperm DNA fragmentation of males with idiopathic infertility

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Background/Aim: DNA fragmentation level evaluation of spermatozoids of males with idiopathic infertility.

Materials and Methods: 40 males were examined with diagnose of infertility (main group) and 10 healthy males (control group) during the period of time since January 2014 till January 2015 in Research Centre of Urology named after B.U. Jarbusynov. All the patients signed the agreement on the participation in the research of their own free will. Age of researched patients varied from 25 to 35 years old and in average was 31.4 ± 1.8 years old in main group, and 32.30 ± 1.11 years old in control group ($p > 0.05$). Patients with spermogram conclusion as asthenozoospermia and theratozoospermia were tested for DNA fragmentation analysis of spermatozoids by the method of SCD (sperm chromatin dipersion, Spermprocessor, India) using fluorescent microscope Axioscope 40. To calculate DNA fragmentation index not less than 500 spermatozoids were examined.

Results: During research of spermogram, characteristics dependence on DNA fragmentation of sperm among the patients who were defined to have more spermatozoids in fragmented DNA, patients with asthenozoospermia SFD -40.0 ± 2.15 , with oligospermia 27.5 ± 2.31 , with the ratospermia 32.5 ± 1.50 . In control group of patients' amount of spermatozoids with damaged DNA is much higher ($p > 0.05$) at patients with bad index of spermogram comparing to the patients with normospermia. SFD were compared to the overall characteristics of sperm, such as normal morphology of spermatozoids ($p < 0.001$), general quantity of spermatozoids ($p < 0.001$), floating spermatozoids totally ($p < 0.001$), and correlated with spermatozoid fragmentation index (SFD).

Conclusions: As a result, in the process of research patients with male infertility have DNA fragmentation 40.0 % in average. If 20.0 % is used in capacity of threshold level for infertility, then 27 out of 40 patients (67.5 %) in our research had increase of DNA fragmentation of spermatozoids.

Biography

Lazza Tuleyeva - MPH. Senior Researcher in the Laboratory of molecular diagnostics, Scientific Center of Urology named BU Jarbusynov, Almaty, Kazakhstan. She has published more than 30 papers in reputed journals.

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