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Inhibin B level influence on the DNA fragmentation degree of spermatozooids of males with infertility

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Background/Aim: Determine the influence of the level of inhibin B on the degree of DNA fragmentation of sperm.

Materials and Methods: Age of researched patients (50 male) with a diagnose of infertility varied 25 to 35 years, and in average it was 31.4 ± 1.8 years, and in control group it was 32.30 ± 1.11 years ($p > 0.05$). For carrying out analysis of spermatozooids DNA fragmentation there was used a SCD method (sperm chromatin dispersion, Halosperm, Spain). The analysis was carried out with the help of fluorescent microscope Axioscop 40. Spermatozooids with fragmented DNA should not exceed 20.0 % at standard conditions. In blood plasma an inhibin B level was determined by the Elisa method on a map-board analyzer Stat FAX2100 (Awareness Technology Inc).

Research Results: Healthy males' level of inhibin B showed 341 pg/mL on average, while males with infertility had decreased level of inhibin B up to 128 pg/m, that is 37.5 % less than healthy males. Correlation connection between spermatozooids DNA fragmentation indexes and inhibin B have been registered against inhibin B level decrease tendency at males of a main and control groups aged 36 to 45. Inhibin B level in a blood plasma was lower at 21 males of main group, three of which was diagnosed asthenoazoospermia, 6- oligospermia, and 12- asthenozoospermia. The following chart shows dependence of spermatozooids DNA fragmentation on inhibin B level in a blood. Patients with pathozoospermia containing inhibin B within standard index (147 – 364 pg/mL), had 23% to 27 % of spermatozooids DNA fragmenatation level. With decreasing of inhibin B level up to 128 pg/mL proportionally the degree of spermatozooids DNA fragmentation in an ejaculate has increased from 31 % to 40%.

Conclusion: Inhibin B has much higher importance and is more essential marker in male fertility disorder, low concentration of inhibin B points at changes in spermatogenesis.

Biography

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

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