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AZF gene microdeletion and aneuploidy of spermatozooids cores of the males with oligozoospermia of the high degree

Svetlana Duisenbaeva, Mirzakarim Alchinbaev, Amanzhol Suranchiev and Lazzat Tuleyeva
Research Centre of Urology, Kazakhstan

Background/Aim: To determine AZF gene microdeletion and aneuploidy of spermatozooids cores under oligozoospermia of the high degree.

Materials and Methods: 25 males were examined with diagnose of infertility during the period of time since November 2014 till April 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 23 to 44 years old and in average was 31.36 ± 5.67 (V-18.08%) years old. We study investigated chromosomal aneuploidies and DNA damage in spermatozoa from male patients in seminal plasma. Sperm aneuploidy and diploidy was assessed using multicolor FISH (DNA probes specific for chromosomes X, Y, 18, 13, 21 (Vysis Multi Vysion PGT, Abbot Molecular)). To hold analysis of microdeletion of 13 locuses in AZF gene there was used venous blood with EDTA. The research was held with the help of multiplex PCR method in real-time mode.

Results: Men with oligo asthenozoospermia had a greater percentage of sperm aneuploidy (58%) and men with oligo zoospermia had a percentage of sperm aneuploidy (31%) men with oligo asthenotheratospermia had a percentage of sperm aneuploidy (66.9%) compared with men with normal semen parameters. Frequency of microdeletions was 12 % (3 out of 25) among the group of patients with oligospermia and frequency occurs mainly in the region of AZFc in 2 cases (8%), and 1 case in the region AZFa (4%).

Conclusions: Due to the carried out research there was seen a high level of aneuploidy of spermatozooids cores under oligoasthenotheratozoospermia of a high degree (66,9 %), as well as locus a and c microdeletion in AZF gene.

Biography

Svetlana Duisenbayeva- head of laboratory at "The Research Center of Urology named after B.U. Dzharbussynov". She graduated Kazakh National University, with the major-biochemistry, in 1992. In 1993, she continued her education in the sphere of clinical laboratory diagnostics; it allowed her work in medical laboratories. Currently, as it was mentioned above, she work as a head of laboratory at "The Research Center of Urology named after B.U. Dzharbussynov". Her laboratory performs not only basic functions, it also conducts scientific researches. Nowadays, The Research Center of Urology makes a research about male infertility and its reasons on the genetic level.

She always try to bring something new to the laboratory, and she hope that Molecular Medicine Conference will show new opportunities and ideas for the future development of the laboratory.

Lazzattul@mail.ru