

## PREIMPLANTATION GENETIC TESTING FOR ANEUPLOIDIES IN IVF IN PATIENTS WITH Y CHROMOSOME AZF-C MICRODELETION

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### Abstract Body

**Objective.** Among infertile men, the prevalence of Y microdeletion is approximately 7%. Recent data about the ploidy status of the blastocysts got from patients with the AZF deletions are controversial. The aim of our study was to evaluate the aneuploidy rate of the blastocysts for patients with Y chromosome AZFc microdeletions.

**Methods.** Between January and December 2018, 316 blastocysts from 97 patients with the severe pathospermia were biopsied for PGT for aneuploidies (PGT-A) test by method of next generation sequencing (NGS). All the patients were screened for microdeletion in AZF a, b and c regions of the Y chromosome. 19 of them have a Y chromosome AZFc microdeletion and were assigned to group Y-deleted (Group 1). The rest 78 patients without any Y microdeletions formed Group 2. During the PGT-A test the gender selection of the embryo for the ET was performed for patients in Y-deleted group. The surrogacy was used in all the mentioned IVF programs. A chi-squared test and Spearman coefficient were used for statistics.

**Results.** In total, 316 blastocysts were analyzed by NGS (67 – for patients from Group 1; and 249 blastocysts for patients from Group 2). The rate of euploid embryos in Y-deleted group was significantly lower comparing group of patients without any Y microdeletions (31.3% vs. 47.4%,  $\chi^2 = 5.431$ ,  $\chi^2_{critical} = 3.841$ ,  $P=0.020$ ). There was a significant positive correlation between the euploidy rates and sperm concentration ( $r_s = 0.16$ ,  $P < 0.05$ ). There was no difference in clinical pregnancy rates for both groups (40.0% vs. 39.1%,  $P>0.05$ ).

**Conclusion.** Obtained data proved the effect of Y chromosome AZFc microdeletion on the blastocyst euploidy. The results indicated the dependence of the blastocysts aneuploidy rates on the sperm concentration. The effect of male factor on the blastocyst ploidy status is proved.

**Key words:** AZF, NGS, PGT-A