COMPLEX GENETIC PROGNOSIS FOR EMBRYO-FETUS-CHILD BASED ON THE DATES BY NGS TECHNOLOGY PGT

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OBJECTIVE: Most of ART(IVF) patients have a high background risk of chromosomal abnormality and need to detect genetic status embryos.METHODS: We enrolled status 5 days embryos by NGS examination. From 05\2016 through 08\2018 embryos underwent TE biopsy and shipped to genetic laboratory in our clinic. DNA test was performed using Illumina MySeq and bioinformatics program. According to amount of material of chromosomes in analyzed cells embryos were classified/ The assay was applied to 7143 embryos. The multilevel genetic forecast taking into account the potential of each chromosome has been made on the basis of the genetic status of embryo.RESULTS: Of the initial 7143 embryo samples submitted for PGS, 9.7% had a mosaic an entire extra (68%) or missing (32%) chromosome.Clinical geneticists determined by result of the laboratory analysis of 5 TEcells the direct and indirect clinical forecast for different stages of ontogenesis – for embryo and fetus and post-natal stage.We considered probability URD as risk factor of the sick child and reason of placentary pathology. Conservative forecast assumes low-level mosaic embryos there can be implant more and miscarry less but risk of the child with chromosomal pathology of mosaic type it will appear high, at first 8, 12, 20, Y. Mosaic variants by 1, 3, 10, 19 chromosomes have the healthy child potential and can be recommended for transfer. Embryo samples that returned results were classified as 'euploid' were detected, but testing of TEcell not doesn't exclude a ICM mosaicism.The cases mosaic embryos transfer demands the special program of prenatal diagnostics including CMA, NGS or 24 types chromosomes NIPT.CONCLUSIONS: Over the last years NGS embryo testing has become a preferred choice for ART(IVF)-patients. All cases need pre-test and post-test genetic counselling in order to explain and discuss the limitations and benefits of PGT.