

IS IT POSSIBLE TO IMPROVE RESULTS OF ASSISTED REPRODUCTIVE TECHNOLOGIES (ART) IN ADVANCED MATERNAL AGE BY PERIMPLANTATION GENETIC SCREENING (PGS)?

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Abstract Body

The inefficiency of assisted reproductive technologies can be as a result of many factors. Aneuploidy is directly depends on the maternal age and rarely associated with the morphological characteristics of the embryos. PGS is used for diagnosis chromosomal rearrangements and selection balanced or healthy embryos. Consequently PGS can increase pregnancy rate and prevent transmission of unbalanced rearrangements to offspring. Since November 2016 to September 2017 the retrospective open comparative study of 282 embryos from 99 couples was conducted in the international clinical reproductive center "PERSONA". All couples were undergone IVF and FET programs. Embryos were undergone biopsy of trophoectoderm on day 5 or 6 with examination by a-CGH to diagnose chromosomal abnormalities. All 99 women were divided into two groups at different ages. The first group included 32 women under 35 years old, the average age was 29.7 years. The second group included 67 women over 36 years and older (average age 41.6 years). In the first group 460 oocytes and 85 embryos were obtained. In the second group 559 oocytes and 197 embryos were obtained. Chromosomal abnormalities of embryos in both groups were identified: 45.8% and 56.3% respectively. There was a strong correlation between the level of AMH and the probability of obtaining an euploid embryo, $r = 0.99$. An average AMH in group 1 was 4.79 ± 2.2 , the level of euploidy was 54.2%. An average AMH level in group 2 was 2.98 ± 2.9 , the level of embryo euploidy was 43.7%, $p < 0.05$. Pregnancy occurred in 57.1% in group 1, in the 2nd group pregnancy occurred in 64.5%, $p < 0.05$. Applying of PGS is an important option in the treatment of infertility in patients older than 36 years during IVF. PGS allows to increase the pregnancy rate up to 65% for embryo transfer to reduce the risk of a chromosomal pathology with a probability of up to 95%. There is a direct relationship between AMH level and the probability of receiving an euploid embryo.