

Decreased and extremely decreased oocyte maturation during In Vitro Fertilization- is there a difference?

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INTRODUCTION

Oocyte maturity rate (OMR) is a marker for the efficiency of ovarian stimulation. An expected competence OMR is 75%. Factors associated with decreased and extremely decreased OMR are not well understood.

METHODS

We retrospectively compared stimulation and fertility parameters between ICSI cycles with decreased OMR (25-50%) to extremely decreased OMR (<25%).

RESULTS

258 cycles were included: 203 cycles with decreased OMR and 55 with extremely decreased OMR. The groups were comparable for age, BMI, basal estradiol and FSH and primary infertility rate. The decreased OMR group showed a trend for higher rate of male factor diagnosis (47.9% vs. 35.10% p= 0.09). Stimulation parameters as treatment protocol, type of gonadotropins used, stimulation days (10 ± 2.1 vs. 9.9 ± 2.3 , p=0.7), total gonadotropin dose (2434.6 ± 1201.5 vs. 2168.7 ± 1065.7 , p=0.1), E2 at trigger (1718.9 ± 1038 pg/ml vs. 1728.9 ± 900.2 pg/ml, p=0.9) and hCG ovulation triggering (89.4% vs. 83%, p=0.2) were also comparable. Number of follicles ≥ 20 mm measured at day of trigger was higher among the extremely decreased OMR group (0.8 ± 1 vs. 1.2 ± 1.4 , p=0.01). Other follicular size groups (16-17mm, 18-19mm) were comparable. The extremely decreased OMR group had a higher number of retrieved oocytes (11.5 ± 7.5 vs. 9.9 ± 4.4 , p=0.04), GV oocytes (4.1 ± 4.2 vs. 2.7 ± 1.9 , p=0.003) and MI oocytes (4.6 ± 3 vs. 2.8 ± 1.5 , p<0.001). The groups were comparable for fertilizations, usable embryos and deliveries.

CONCLUSION

Our finding demonstrate that an extremely decreased OMR is associated with follicles measured ≥ 20 mm at trigger and increased retrieved oocytes.

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