

HOW OLD IS TOO OLD TO SELECT *IN VITRO* MATURATION TREATMENT FOR POLYCYSTIC OVARIAN SYNDROME?

M. Satoh¹, T. Maezawa¹, C. Nishizawa¹, T. Himeno¹, Y. Ohnishi¹, T. Inoue¹, K. Ito¹, Y. Nakaoka¹, A. Fukuda², and Y. Morimoto¹

¹ IVF Namba Clinic, Osaka, Japan

² IVF Osaka Clinic, Osaka, Japan

Objective: The application of *in vitro* maturation followed by *in vitro* fertilization (IVM-IVF) is one of the effective methods for polycystic ovarian syndrome (PCOS) patients to reduce risk of ovarian hyperstimulation syndrome. Human oocytes matured *in vitro*, however, does not have same developmental competence compare with *in vivo* matured oocytes. Moreover, older patient has less time to pregnant successfully because of fertility declines starts over the age of 35. In this study, we investigated how old is limit for PCOS patients to select IVM-IVF treatment.

Design and methods: One hundred-sixty-five IVM-IVF cycles performed in IVF Osaka and IVF Namba Clinics from 2008 to 2010 were analyzed. We divided in two groups depending on women age (Group 1 (n=105): less than 35 years old, Group 2 (n=59): more than 35 years old). We compared numbers of retrieved oocytes, matured oocytes, fertilized oocytes and good quality embryos, and also compared the rates of embryo transfer and the pregnancy rate per embryo transfer in between two groups.

Results: In Group 1, the numbers of retrieved oocytes and matured oocytes were significantly higher than in those Group 2, respectively (10.1 vs. 8.0, 5.5 vs. 4.1, $p<0.05$). There was no difference in the number of good quality embryo between Group 1 and 2 (1.7 vs. 1.1). However, Group 2 in the rate of embryo transfer was significantly lower than Group 1 (66.7% vs. 50.8%, $p<0.05$). There was no difference in pregnancy rate between Group 1 and 2 (28.5% vs. 23.3%). No pregnancy was observed in women over 40 years old.

Conclusion: In this study, it was revealed that older patients could obtain less the numbers of retrieved oocytes and of oocytes matured *in vitro*. Moreover, the patients in older groups decreased who have good quality embryos. These results suggests that IVM-IVF treatment should be recommended to young patients less than the age of 35, and older patients who reach the age of 40 should be switched IVM-IVF to IVF treatment.