

A-13**Comparison of the application for two kinds of in-vitro matured culture media**

Ting Feng

Human Clinical Reproductive Medicine Center, the First Affiliated Hospital of Nanjing Medical University, China; E-mail: ttigerf35@yahoo.com.cn

Objectives: The application was compared between the self-made medium and commercial medium in order to provide the basis for the optimization of the in-vitro oocyte matured system.

Methods: Using the cycles of ICSI in corresponding period as the controls (C1 and C2), 110 and 108 clinical cycles of IVM using the self-made medium (A) and the commercial medium (B) were collected, respectively, and the differences between A and B were compared in in-vitro matured, embryo development, embryo implantation, clinical pregnancy and outcomes.

Results: In the situation of non-difference between the two control group, the in-vitro mature and embryo development in A were better than those in B, and the rate of transplanted embryo as well as the high-quality embryo showed the significant difference ($P < 0.05$ or $P < 0.01$). Although the rate of the embryo implantation, pregnancy and live birth in A were lower than those in B, actually, the difference were not significant due to the fact that the index in C2 (2006 or later) was also better than C1, which were associated with the improvement of the clinical therapy scheme and the use of hysteroscope as well. The abortion in A was lowest among all the groups (10.53 %), there was significant difference between the A and B ($P < 0.05$) while the rate in C2 (the control for B) was obviously lower than that in C1 (the control for A), which suggested that the embryo cultured from the self-made medium might reduce the abortion.

Conclusions: The application of the self-made IVM medium showed better effect which might be associated with the additional adding the mHFF and E2. The system needs to be further optimized in order to ensure it should be effective, safe and cheap.

Poor Responders**A-14****The use of growth hormone (GH) in poor responders**

Chii-Ruey Tzeng

Center for Reproductive Medicine & Sciences, Taipei Medical University Hospital, Taipei, Taiwan; E-mail: tzengcr@tmu.edu.tw

Objectives: Poor ovarian response to gonadotropin stimulation is not rare and is a key factor to reduce pregnancy rate (PR). Advanced age, previous ovarian surgery, low AMH and elevation of day3 FSH are related to poor ovarian response. Numerous strategies have been suggested to improve outcome of poor responders, and growth hormone administration is reported to achieve more oocytes and increase fertilization rate. Our study is to analyze pregnancy outcome of co-treatment with growth hormone in poor responders of IVF.

Methods: In order to verify the effects of co-treatment of GH during COS in poor responders undergoing IVF/ET, we conducted a retrospective study with GH co-treatment in IVF (group A, $n=94$) matched with non-GH control (group B, $n=90$).

Results: The E2 level on hCG day (pg/ml), number of oocyte retrieved, number of embryo obtained was significantly higher in group A than group B, respectively. Moreover, the pregnancy rate was also significantly higher in group A than group B (31.9 % vs. 16.7 %, $p < 0.05$). Further analysis of poor responders with age < 40 , we observed the beneficial effect of GH co-treatment group was significant increased in pregnancy rate (37.7 % vs. 20.3 %, $p < 0.05$) and implantation rate (15.1 % vs. 11.9 %, $p < 0.05$) compared to GH (-) group, respectively. However, this advantage was not shown in poor responders with age > 40 .

Conclusions: This study demonstrated in IVF/ET of poor responders, E2 level, the number of oocyte retrieved, number of good quality embryo obtained as well as PR were satisfactory achieved in GH co-treatment cycles. GH may improve the PR at least in poor responders with age < 40 . GH may enhance the oocyte quality by accelerating and coordinating cytoplasmic and nuclear maturation. The enhancement of endometrial receptivity by GH awaits further investigation.

A-15**Moderate IVF treatment for advanced reproductive age women**

Peter S. Uzelac

Marin Fertility Center, Greenbrae, CA, USA; E-mail: uzela@marinfertilitycenter.com

Objectives: A growing body of literature suggests that, among some infertility patient populations, mild approaches in assisted reproductive technology (ART) may result in similar outcomes when compared to those utilizing controlled ovarian hyperstimulation (COH). Given the well-recognized decline in success of conventional in vitro fertilization (IVF) with age, it is unclear whether mild

approaches in ART should be considered for women older than 35 years. It is the aim of this paper to characterize the role of natural cycle IVF, minimal stimulation IVF and in vitro maturation (IVM) for women of advanced reproductive age.

Methods: A review and summary of the literature on mild approaches in ART for women over the age of 35 years is presented.

Results: Available evidence regarding natural cycle IVF and its variants suggest that it should not be routinely offered to women of advanced reproductive age, especially over the age of 39. Data from centers well-experienced with minimal stimulation IVF report per cycle live birth rates for several subgroups of women older than 35 years that are comparable to those in the 2010 US Assisted Reproductive Technology National Summary Report. Limited data on IVM suggests that it can be considered up until the age of 40.

Conclusions: Recent additions to the literature provide new insight into the efficacy of mild approaches in ART to women of advanced reproductive age. Suboptimal study designs, heterogeneity of protocols and variation in center experience make definitive conclusions difficult however there are several treatment options which would appear to be reasonable for select patient populations. Future studies addressing patient satisfaction, dropout rates and cost will further define the role of mild approaches in ART for this group of women.

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Comparison of ultrashortGnRH agonist and mild stimulation protocol on IVF outcomes in poor ovarian responders according to Bologna criteria

Yun Sun^{1,2}

¹ Department of Reproductive Medicine, Renji Hospital, Shanghai Jiao Tong University (SJTU) School of Medicine, Shanghai, China; ² Shanghai Key Laboratory for Assisted Reproduction and Reproductive Genetics, Shanghai, China; E-mail: syun163@163.com

Objectives: To assess the efficacy of UltrashortGnRH agonist protocol in poor ovarian responders undergoing in vitro fertilization and embryo transfer.

Methods: A retrospectively analysis was performed in 342 women (401 IVF cycles) with poor ovarian response diagnosed by the latest Bologna criteria between January 2009 and August 2011. Among this patients, 254 patients (291 IVF cycles) adopted UltrashortGnRH agonist protocol (group A); while 88 patients (110 IVF cycles) adopted mild ovarian stimulation protocol (group B). First we compared

the basal characteristics, clinical outcomes and cycle cancellation rate between the two groups; second we analyzed the reasons for cycle cancellation.

Results: There were no significant differences in terms of age, duration and cause of infertility, basal FSH, AFC and BMI in the two groups. Although the clinical pregnancy rate per embryo transfer, implantation rate and miscarriage rate were comparable ($p>0.05$) in the two groups, the accumulative clinical pregnancy rate was significantly higher in UltrashortGnRH agonist protocol (25.1 % vs. 14.5 %; $p<0.05$). Besides, we found the cycle cancellation rate was significantly higher in mild ovarian stimulation protocol (44.5%vs17.5 %; $p<0.05$). Furthermore, we analyzed the reasons for cycle cancellation, and we noted that the rate of the endometrial factors related to cycle cancellation in the mild ovarian stimulation protocol were higher than in ultrashortGnRH agonist protocol (22.4%vs7.8 %; $P<0.05$), while other factors were similar in the two groups.

Conclusions: The ultrashortGnRH agonist protocol would improve accumulative clinical pregnancy rate, decrease the cycle cancellation rate and relieve the treatment time as well as psychological stress in the poor ovarian responders. Therefore, the ultrashortGnRH agonist protocol may be a valid alternative treatment strategy for the poor ovarian responders.

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The value of progesterone level on HCG day in prediction no available embryo with minimal stimulation

Yi Zheng, Bufang Xu, Yun Feng

Ruijin hospital affiliated to the Shanghai Jiao Tong University School of Medicine, China; E-mail: zhengshiningrain@126.com

Objectives: To estimate the value of progesterone level on the day of human chorionic gonadotrophin (HCG) administration in prediction no available embryo on the 3rd day after oocyte retrieval in minimal stimulation IVF cycles, and find out the relevant factors which may co-influence the outcome of IVF.

Methods: retrospective compare the progesterone level on the day of HCG of 58 cycles having no optimum embryo to transfer with 224 cycles having available embryo, both by minimal stimulation. Then analyze the relevant factors of progesterone level on the day of HCG.

Results: HCG day's progesterone level in cycles with no available embryo was significantly lower than those with available embryo (1.35 ± 0.12 ng/ml vs. 1.91 ± 0.11 ng/ml, $p<0.05$). And the progesterone level on the day of HCG was correlated with the same day's estradiol level, number of