The international Academy of Human Reproduction

17th World Congress of the Academy of Human Reproduction

15–18 March 2017

Rome, Italy

TITLE

HUMAN EMBRYO CULTURE IN MELATONIN CONTAIN MEDIUM

AUTHOR/S

Kirienko K V (RU) [1], Apryshko V P (RU) [2], Kharitonova M A (RU) [3], Troshina M N (RU) [4], Ermilova I Y (RU) [5], Khryapenkova T G (RU) [6], Strashnova A L (RU) [7], Voronich N S (RU) [8], Biryukov A A (RU) [9], Bolt A I (RU) [10], Klepukov A A (RU) [11], Mironova A G (RU) [12], Simonenko E Y (RU) [13], Yakovenko S A (RU) [14]

ABSTRACT

Introduction: Melatonin has been used to promote in vitro embryo development in different species. This study determined the effects of melatonin on in vitro human embryo development; in particular, cleavage rate and blastocyst rate.

Objective: The aim of this study is to compare the effectiveness of Human embryo cultivation in medium with different concentration of melatonin.

Design: Prospective study.

Methods: In the present prospective study embryos obtained from 181 couples undergoing ICSI or IMSI were distributed between culture media LifeGlobal (LG) (total number of embryos – 1504), LG + 10-9 M Melatonin (total number of embryos – 540), LG + 10-6 M Melatonin (total number of embryos – 425) and LG + 10-4 M Melatonin (total number of embryos – 378). Those 181 couples aged between 22 and 41 (the average women age was 31.4). The resulting blastocysts were used either for embryo transfer or cryopreservation.

Results: Development of embryos to preimplantation stages, the proportion of good quality blastocysts on the 5-th and 6-th day of development, and total number of blastocysts in the group of embryos cultured in the medium LG and LG + 10-9 M or 10-6 M Melatonin did not differ and was similar. The LG + 10-4 M Melatonin group was observed by increasing the share of compact embryos on the 4th day of development, and blastocyst on the 5th day of development and the total number of blastocysts compared with the control (45,7±4.1% vs 40,7±4,0%; 22,8±3,2% vs 17,8±2,7% and to 41.4±3.4% 36,2±3,4% respectively). However, the difference was not statistically significant (p>0.05).

Conclusions: Our study did not reveal statistically significant differences in effectiveness of human embryo cultivation in melatonin or non-melatonin medium.

Supported by: This work was supported by Russian Science Foundation grant (project ?14-50-0029.

INSTITUTE

[1] “AltraVita” IVF Clinic, [2] “AltraVita” IVF Clinic, [3] “AltraVita” IVF Clinic, [4] “AltraVita” IVF Clinic, [5] “AltraVita” IVF Clinic, [6] “AltraVita” IVF Clinic, [7] “AltraVita” IVF Clinic, [8] “AltraVita” IVF Clinic, [9] “AltraVita” IVF Clinic, [10] “AltraVita” IVF Clinic, [11] “AltraVita” IVF Clinic, [12] “AltraVita” IVF Clinic, [13] Lomonosov Moscow State University, [14] “AltraVita” IVF Clinic