MELATONIN IN THE HUMAN EMBRYO CULTURE MEDIUM.

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Abstract Body

Objective: The aim of this study is to compare the effectiveness of Human embryo cultivation in medium with or without 0.1mM melatonin.
Design: Prospective study.
Methods: In the present prospective study embryos obtained from 121 couples undergoing *ICSI* or *IMSI* were distributed between culture media LifeGlobal (total number of embryos – 945) and LifeGlobal + 0.1mM Melatonin (total number of embryos – 874). All women aged between 19 and 43 (the average age was 30.9 years). The resulting blastocysts were used either for embryo transfer or cryopreservation.
Statistical analysis: The research results are expressed as Mean ± SD. Data were compared using Student's t-tests for Dependent Samples.
Results: The study results are presented in the table below.

TABLE. Results

	0.1mM Melatonin (n=874), Mean±SD	Control (n=945), Mean±SD	P value
4 and more-cells embryos on day 2, %	53.04±27.19	52.33±26.14	-
8 and more-cells embryos on day 3, %	38.77±24.50	36.94±25.09	-
Compacted embryos on day 4, %	45.95±27.63	39.09±27.62	p<0.005
Good quality blastocyst on day 5, %	23.94±21.75	19.56±20.28	p<0.05
Good quality blastocyst on day 6, %	17.35±17.42	16.32±16.80	-
Total blastocyst, %	41.37±22.78	35.88±22.88	p<0.005

Conclusions: Melatonin at a concentration of 0.1 mM significantly increased the proportion of compacted embryos by day 4, the proportion for a good quality blastocyst by day 5 and the total number of blastocysts. Also, in the present study, concentrations of 0.1 mM melatonin in cultivation medium seem to be non-toxic for human early embryos. **Supported by:** This work was supported by Russian Science Foundation grant (project №14-50-00029).