INFLUENCE OF INTRACYTOPLASMIC SPERM INJECTION PROCEDURE TIMINGS ON THE OUTCOME RESULTS IN IVF PROGRAMS

Authors

Strashnova, Aglaya, Author, Apryshko, Valentina, Co-Author, Naumova, Anna, Co-Author, Shalamova, Ekaterina, Co-Author, Biryukov, Alexey, Co-Author, Kharitonova, Margarita, Co-Author, Klepukov, Alexey, Co-Author, Khryapenkova, Tatiana, Co-Author, Voronich, Natalia, Co-Author, Bolt, Alexey, Co-Author, Ermilova, Irina, Co-Author, Kalinina, Elena, Co-Author, Troshina, Maria, Co-Author, Kirienko, Konstantin, Co-Author, Mironova, Anna, Co-Author, Yakovenko, Sergey, Co-Author

Abstract Body

Introduction: The preincubation period between oocyte retrieval and ICSI procedure affects oocyte maturity, oocyte fertilizing ability and IVF program outcome. **Objective:** To identify optimal time period between oocyte retrieval and ICSI procedure.**Material/Methods:** We conducted a retrospective comparative study on influence of oocyte preincubation time before injection on fertilization rate (FR), blastocyst rate (BR) and pregnancy rate (PR) based on 15,565 ICSI cycles (without exclusions, woman age 34,3±5,6) with fresh or frozen blastocyst transfer. Time period between oocyte retrieval and ICSI varied from 2 to 11 hours. Statistical comparison was done by paired t-test.**Results:** FR significantly rised by following oocyte incubation time increase from 2 to 3 hours ($p<0,01$), from 3 to 4 hours ($p<0,01$) and from 4 to 5 hours ($p<0,01$). In ICSI programs with time period between oocyte retrieval and fertilization 5 and 6 hours FR showed no significant differences (76%) and was significantly higher ($p<0,01$) then in programs with oocyte preincubation time ≤4 hours (72%) and ≥8 hours (72%). Maximal BR (46%) was in the programs with time period of 6-9 hours between oocyte retrieval and ICSI and significantly higher ($p<0,01$) then in programs with preincubation time <6 hours BR (38%) and >9 hours BR (37%). PR did not change in wide time period from 4 to 10 hours and was 31%. In time range over 4-10 hours PR significantly ($p<0,01$) decreases: in preincubation period <4 hours PR was 26% , >9 hours PR was 23%.**Conclusion:** Our data demonstrate that maintaining the preincubation period 5-6 hours between oocyte collection and ICSI allows to achieve the highest FR, BR and PR simultaneously and increase the effectiveness of IVF program in general.**Key Words:** ICSI timing, fertilization rate, blastocyst rate, pregnancy rate**Study funding:** By Russian Science Foundation, project 14-50-0029.**Competing interest:** none.