

P-618 Wednesday, October 10, 2018 6:30 AM

SPERM QUALITY CAN AFFECT THE EMBRYO KINETIC AND THE EMBRYO DEVELOPMENT.

D. Agudo. IVF, IVI Madrid, Madrid, Spain.

OBJECTIVE: Time lapse technology is offering a multitude data about kinetics of embryonic development, but few have studied influence of the male gamete in embryonic kinetics. Our main objective is to determine if the seminal quality can affect the morphokinetic variables of human embryos.

DESIGN: Retrospective study in which were included 118 oocyte donation cycles. Two groups of patients were compared. 80 of them (863 oocytes and 719 embryos) were good prognosis patients sperm samples (more than 15 million/ml, more than 30% of motility and more than 4% of normal forms) (group A) and 38 cycles (427 oocytes and 303 embryos) coming from sperm samples from poor prognosis patients (less than 5 million/ml, less than 5% of motility and less than 1% of normal forms) (group B).

MATERIALS AND METHODS: This oocyte donation cycles were incubated in embryoscope. Cellular events studied in this work were described by Meseguer, M. et al 2011, including all cellular divisions until blastocyst stage, appearance and fading of some cellular structures and two cellular events described as cc2 (difference in hours between first and second cellular cleavage) and S2 (difference in hours between second and third cellular cleavage). Data were exported from the embryo viewer data base. SPSS statistical software was used on data analysis.

RESULTS: We found significant differences respecting the time of cell division between our two groups under study (A and B) only in the time of PN appearance, shorter in A group, and longer T9 and TM (morula formation) in A group. Besides, the duration of the third and fourth cell cycles (CC3 and CC4) are shorter in the B group, then, in the B group, the embryos have less time to complete a right interphase and mitosis. We didn't find significant differences when we compared the classical embryo morphology in D2 and D3 of development in both groups, but we found significant differences in the blastocyst expansion in D5 and D6, being higher in the A group. We also found significant differences when we apply the time lapse algorithms that we used in our lab for implantation forecast in D3 and D5 of development, being in a greater degree the A group embryos. Moreover, we subdivided groups A and B into two subgroups respectively. The first subgroup consists of transferred and frozen embryos, and the second consists of discarded embryos. We found statistically significant association in most of the times of cell division, when we compared the two subgroups of the A group, and the two subgroups of the B group, observing a development delay in discarded embryos. Finally when we compared the viable embryos between A and B group, we found significant differences in the T9 (shorter in A group), and

in the duration of CC3 and especially CC4, taking more time to complete it in the viable embryos of A group.

CONCLUSIONS: The bad sperm sample quality may induce a lower T9, that point out the beginning of the fourth cell cycle, lower TM that point out, in this study, the beginning of cell compaction, and shorter third and fourth cell cycles, if we compare to embryos coming from good sperm samples quality. References: Meseguer M, et al. The use of morphokinetics as a predictor os embryo implantation. Hum Reprod. 2011 Oct;26(10):2658-71.