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TITLE

MACS TECHNIQUE IN ICSI EGG DONATION CYCLES: DOES IT IMPROVE PREGNANCY AND ONGOING PREGNANCY RATES?

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ABSTRACT

Objective: We performed an observational cohort study at Procreatec (Madrid), to assess the effect on pregnancy rate (PR) and ongoing pregnancy rate (OPR) with MACS sperm selection.

Methods: We analyzed the results of 134 cycles of ICSI with donor eggs and fresh partner sperm. We excluded cases where the recipient's BMI was >30 kg/m², endometrial thickness was <7 mm and/or had smoking habits. We divided cycles in 3 groups according to sperm diagnosis: A=normo-, B=astheno- and C=terato-zoospermics and reviewed whether MACS technique had been used to select sperm.

Interventions: After Swim-up capacitation, and MACS application in experimental groups, spermatozoa were injected in donor's eggs, then placed in Embryoscope® and transferred at day 3 or 5 according to embryo development and quality.

Results: We weren't able to find differences in PR when MACS was used among groups: non-MACS cycles A=61.3% vs MACS cycles A=56.2% ($p=0.881$); non-MACS cycles B=80% vs MACS cycles B=75% ($p=0.999$); non-MACS cycles C=61.1% vs MACS cycles C=70.8% ($p=0.741$).

Similar OPR was observed among groups: non-MACS cycles A=88.9% vs MACS cycles A=94.4% ($p=0.999$); non-MACS cycles B=87.5% vs MACS cycles B=83.3% ($p=0.936$); non-MACS cycles C=72.7% vs MACS cycles C=86.7% ($p=0.698$).

Conclusions: We haven't been able to find an improvement neither in PR nor in OPR using MACS technique in egg donation ICSI treatments. Embryologist's ability to select the healthy spermatozoa, the oocyte's ability to repair DNA after fertilization, as well as the use of time-lapse technology to improve embryo culture conditions and selection may be the origin of these results.

Before introducing MACS technique in our daily clinical practice, its real effectiveness in all reproduction treatments should be proved, preventing false expectations and economic efforts to the couples.

INSTITUTE

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