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THE CONTRIBUTION OF THE RESCUE IN VITRO MATURATION TO ICSI CYCLES

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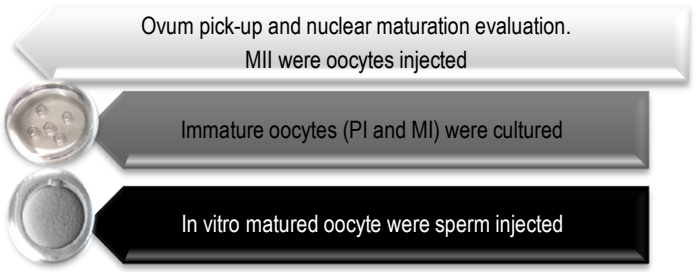
WHAT IS KNOWN ALREADY

In vitro maturation (IVM) has been reported mostly in women with polycystic ovary syndrome, where, oocytes are on purpose recovery at immature stages in natural cycles or after low-dose gonadotropin stimulation. Success rates after IVM appear inferior to in vivo-matured oocytes. Unlike in scheduled IVM, in stimulated cycles, pharmacologic doses of gonadotrophins induce the growth of follicles, which, under natural conditions, would become atretic. Ovarian stimulation leads to the retrieval of oocytes at different nuclear stages and some may spontaneously mature in vitro. Whether rIVM of oocytes retrieved from stimulated cycles may improve the ICSI outcomes is to be elucidated.

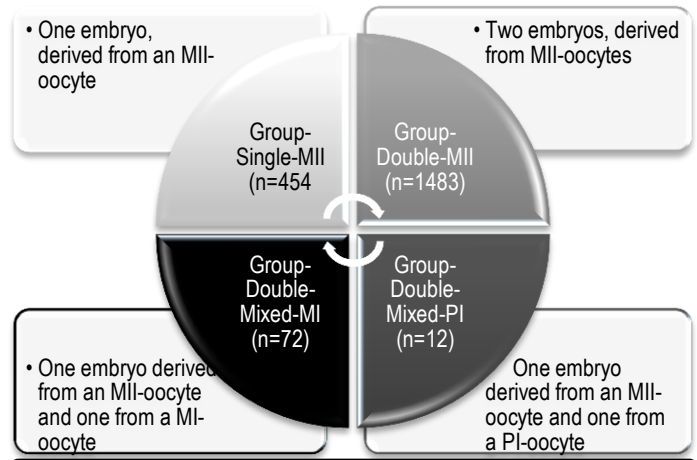
OBJECTIVE

To investigate if the addition of an extra embryo derived from an immature oocyte, when an embryo derived from metaphase-II (MII) oocyte is transferred, is ever worth it.

DESIGNE



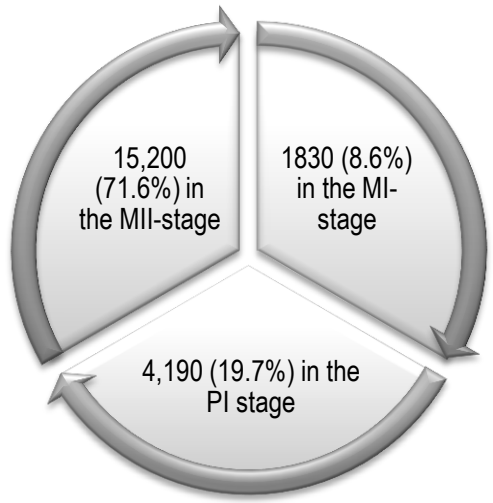
2021 cycles split depending on the origin of transferred embryos



Outcomes were compared among the groups

RESULTS

21,220 retrieved oocytes



ICSI outcomes depending on the origin of the transferred embryos

ICSI outcomes	Single-MII	Double-MII	Double-Mixed-MI	Double-Mixed-PI	p
Pregnancy rate (%)	18.0[a]	39.4[b]	33.3[a]	15.3[a]	<0.001
Implantation rate (%)	17.7[a]	29.4[b]	20.8[a]	11.8[a]	<0.001
Miscarriage rate (%)	9.9	9.3	9.1	25.0	0.911

Data adjusted for the age and endometrial thickness. a≠b

CONCLUSION

Our evidence indicates that the transfer of an extra embryo, derived from rescue in vitro maturation (rIVM) is not worth it.

IMPLICATIONS

These findings raise the question about the contribution of rIVM in ICSI cycles. Although previous studies demonstrated that rIVM may increase the number of embryos available for transfer, the quality of these embryos must be carefully evaluated, since its implantation potential seems to be limited, especially for PI-derived embryos.