

PREGNANCIES AND BIRTHS ACHIEVED FROM IN VITRO MATURED METAPHASE-I (M-I) OOCYTES RETRIEVED IN PATIENTS UNDERGOING IN VITRO FERTILIZATION (IVF)

AB Pinto, RD Dickerson, JM Putman, K Sivakumaran, SP Marynick, R Basuray, L Zhang*
*Texas Center for Reproductive Health, Baylor University Medical Center, Dallas, TX; *Seron Inc, Rockland, MA*

INTRODUCTION:

Standard in vitro fertilization protocols involve the retrieval of oocytes and fertilizing only the mature oocytes. Generally, the immature oocytes retrieved during in vitro fertilization are not fertilized or even allowed to mature and then to be fertilized due to fear of poor outcomes. This case series describes two patients who had only immature oocytes retrieved during in vitro fertilization, but whose oocytes were allowed to mature overnight before fertilization.

ABSTRACT:

Objective:

To report pregnancies that resulted from in vitro matured oocytes retrieved at IVF.

Design:

Case series. This study describes the successful maturation of M-I oocytes and the subsequent fertilization, transfer, pregnancy and live birth in two patients.

Methods:

Two patients in whom immature oocytes M-I were retrieved at IVF. These oocytes were subsequently cultured in G-I version media overnight. Metaphase II (M-II) oocytes were then subsequently fertilized by intracytoplasmic sperm injection (ICSI). The resultant embryos were transferred three days later. Both patients conceived (singleton pregnancy) and delivered a healthy full term normal child. The main outcomes measured included the number of immature oocytes collected, M-II oocytes, embryos produced and pregnancy outcome.

Results:

Pregnancies and live births were achieved in both patients following immature oocytes (M-I) retrieval, followed by in vitro maturation, fertilization with ICSI and subsequent embryo transfer.

Conclusion:

Immature oocytes retrieved at the time of IVF have a potential to mature, fertilize, cleave, grow to form healthy embryos and result in a healthy pregnancy as evidenced in these 2 patients. The use of alternative culture media is not mandatory. In vitro maturation of M-I oocytes may be an alternative treatment option in some patients as opposed to cycle cancellation.

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	Patient A	Patient B
<i>Age (years-old)</i>	37	33
<i>Total retrieved</i>	4 oocytes	2 oocytes
<i>Total M-I retrieved</i>	3 oocytes	2 oocytes
<i>Total M-I matured</i>	2 oocytes	2 oocytes
<i>Total transferred</i>	2 embryos	2 embryos
<i>Live birth?</i>	Yes	Yes

MATERIALS AND METHODS:

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CONCLUSION:

Immature oocytes retrieved at the time of IVF have a potential to mature, fertilize, cleave, grow to form healthy embryos and result in a healthy pregnancy as evidenced in these 2 patients. The use of alternative culture media is not mandatory, in the near future newer culture systems may be developed that will better assist the in vitro maturation of immature oocytes. In vitro maturation of M-I oocytes may be an alternative treatment option in some patients as opposed to cycle cancellation.

