

# **Human Oocyte Cryopreservation: A Frozen Oocyte Birth Following Failed Fresh IVF in the Same Patient – A Case Report**

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## **Objective:**

To describe a successful live birth using frozen oocytes instead of frozen embryos after an initial unsuccessful IVF cycle.

## **Design:**

Case Report

## **Materials and Methods:**

A 22 year-old nulligravida with PCOS and stage IV endometriosis underwent IVF-ET (IVF) in September of 2005. She produced 21 oocytes at egg harvest followed by transfer of four fresh embryos on day three of her initial IVF cycle. The remaining 16 oocytes were frozen at her request and with informed consent, using our new slow freeze protocol. Five months later, the patient returned for a frozen egg transfer cycle. The endometrium was prepared using ethinyl estradiol and monitored with ultrasound. When the endometrial lining appeared tri-laminar and 8mm thick, progesterone in oil was given. Six MII oocytes were thawed, 5 survived and inseminated with ICSI, 5 were fertilized. Assisted hatching was performed and 4 embryos were transferred.

## **Result:**

The patient's  $\beta$ -hCG level was 178mIU/ml 14 days after ET. At six weeks gestation, the ultrasound showed a single gestational sac with positive cardiac motion with an appropriately sized yolk sac. The patient had an uneventful pregnancy and delivered a healthy baby girl by cesarean route in October 2006.

## **Conclusion:**

In this case, the patient conceived a pregnancy using her frozen oocytes after a failed fresh IVF cycle. When comparing pregnancy rates for fresh oocytes versus frozen oocytes from our year 2006 ART cases, the fresh oocyte pregnancy rate for patients under 35 was 55.7% and the frozen oocyte pregnancy rate was 58%. These results illustrate no noticeable difference between fresh and frozen oocyte pregnancy rates. Meanwhile, the 2006 frozen embryo pregnancy rate for patients under 35 years was 46%, while the pregnancy rate from frozen oocytes was 58%. This difference suggests that frozen oocytes can achieve high pregnancy success rates using our new protocol. In patients under 35 years at our clinic, we compared pregnancy rates between: 1). frozen oocytes; 2). fresh oocytes; and 3). frozen embryos, and found the frozen oocyte pregnancy rate is higher (58%). Thus, using our new slow freeze protocol, successful oocyte cryopreservation and thawing has

created more freedom of choice for patients seeking infertility treatments. Patients may electively choose to inseminate fewer oocytes and freeze the remaining surplus oocytes thereby minimizing the need to freeze embryos.

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