Paolo Emanuele Levi Setti, Elena Albani,, Emanuela Morenghi, Giovanna Morreale, Luisa Delle Piane, Giulia Scaravelli, Pasquale Patrizio, Comparative analysis of fetal and neonatal outcomes of pregnancies from fresh and cryopreserved/thawed oocytes in the same group of patients, in Fertility and Sterility, Volume 100, Issue 2, August 2013, Pages 396–401.

Objective

To analyze the fetal and neonatal outcomes of pregnancies achieved with fresh and/or frozen oocytes in the same group of patients.

Design

Observational study and comparative analysis.

Setting

Research unit of an academic medical center.

Patient(s)

A group of 855 women with cryopreserved oocytes and their resulting 954 assisted reproductive technology clinical pregnancies were enrolled and followed up during the same time period and in the same clinical setting; the outcomes of 197 pregnancies from frozen/thawed oocytes were compared with 757 obtained from fresh sibling oocyte cycles.

Intervention(s)

None.

Main Outcome Measure(s)

Pregnancies were followed until delivery, and neonatal data (up to 28 days after delivery) were collected.

Result(s)

No significant differences were found between the use of fresh and frozen oocytes in the rates of therapeutic abortions for fetal anomaly (1.5% vs. 0.8%) and ectopic pregnancies (3.6% vs. 2.9%), but a significantly higher rate of spontaneous abortions at ≤12 weeks (17.6% vs. 26.9%) was observed in the frozen/thawed oocytes group. No statistical differences were found in major anomalies at birth (2.8% vs. 4.6%).
Despite no difference in gestational age at delivery, the mean birth weights were significantly lower with fresh oocyte pregnancies, both in singleton (2,725 ± 727 g) and twins (2,128 ± 555 g), than with frozen–thawed oocytes (3,231 ± 615 g and 2,418 ± 492 g, respectively). However, the analysis of the 63 patients who obtained pregnancies both in fresh and thawed cycles (138 pregnancies) showed no differences in the abortion rate and in the mean birth weight.

**Conclusion(s)**

These results provide strong support to the notion that fetal and perinatal complications and congenital anomalies do not differ between pregnancies from frozen–thawed and fresh oocytes. The significantly lower mean birth weight observed with pregnancies from fresh oocytes supports similar observations reported for pregnancies from embryo cryopreservation and requires further prospective studies.