

## Abstract Details

**Session title:** Safety and quality of ART therapies

**Session type:** Poster discussion session

**Presentation number:** P-749



### Abstract title:

Obstetric and perinatal outcome of babies born after Elective Fertility Preservation (EFP).

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### Study question:

Is there a compromise in the obstetric and perinatal outcome of the children born after EFP through oocytes vitrification?

### Summary answer:

Obstetric and perinatal outcome following EFP is comparable to the results observed in autologous fresh ICSI cycles.

### What is known already:

There is evidence about the obstetric and perinatal results obtained after IVF cycles conducted with vitrified oocytes in the overall population. However, although there is increasing demand in EFP there is a lack of information about the results achieved by women who electively had their oocytes vitrified for fertility preservation (FP) and returned to attempt pregnancy.

### Study design, size, duration:

Retrospective multicentric study, January 2008- September 2018.

### Participants/materials, setting, methods:

Private university-affiliated IVF center. Obstetric outcome was obtained from 170 pregnant EFP women who delivered 185 children. Control group included 12262 women who achieved pregnancy after fresh autologous ICSI cycles during the same period and delivered 14914 babies. Chi-square and Student's t-test were used when appropriate. Adjusted odds ratios and their 95% confidence intervals were estimated with each method to evaluate the relative odds for vitrified oocytes compared to the reference group of fresh oocytes.

### Main results and the role of chance:

Mean age was older for EFP patients ( $38.5 \pm 3.8$  vs.  $34.8 \pm 3.5$ )  $p < 0.005$ . Delivery route was similar (50.3% vs. 50.7% vaginal delivery) (NS). EFP women and controls delivered during week  $39.1 \pm 2.9$  and  $38.5 \pm 3.8$  respectively ( $P < 0.005$ ). There were no differences in terms of preterm births (12.1% vs 16.4%), very preterm births (7.1% vs. 4.3%), perinatal mortality (0.5% vs. 0.3%), birth defects (0.5% vs. 0.6%), admission to NICU (5.4% vs 3.3%) and sex of the baby (47.6% vs 49.8% for female neonates) (NS). Birth weight was higher in EFP group ( $3046.7 \pm 722.9$  g vs.  $2865.9 \pm 663.7$  g) ( $p < 0.05$ ). Low birth weight (LBW:  $< 2500$  g) was higher in controls (14.8% vs. 26.3%)  $p < 0.05$  and very low birth weight (VLBW:  $1500$  g) was comparable (5.4% vs 3.0%) (NS). The impact of EFP on the following variables was ruled out as shown by the OR (95%CI): LBW=0.854 (0.337-1.091); VLBW: 1.849 (0.337-1.091); Preterm birth: 0.703 (0.449-1.01); very preterm birth: 1.701 (0.963-3.008); perinatal mortality: 1.795 (0.246-13.089); Birth defects: 0.773 (0.107-5.573); Route for delivery; 1.017 (0.756-1.368) and sex of the baby: 1.124 (0.837-1.510); (NS).

### Limitations, reasons for caution:

Although this study compiles a large series, sample size is still small in EFP group.

**Wider implications of the findings:**

This study suggests that there is no increased risk of adverse obstetric and perinatal outcome in children conceived from vitrified oocytes in elective fertility preservation, thus confirming the safety of the approach. Further analysis as the sample size continues to grow will be mandatory in order confirm our findings.

**Trial registration number:**

N/A

**Keywords:**

Elective Fertility Preservation

Social freezing

oocyte vitrification

Obstetric and perinatal outcome