



AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE
2022 SCIENTIFIC CONGRESS & EXPO

OUTCOMES OF AUTOLOGOUS SINGLE THAWED EUPLOID EMBRYO TRANSFER IN WOMEN WITH HISTORY OF A PREVIOUS CESARIAN SECTION

Tamar Alkon, Carlos Hernandez-Nieto, Jenna Friedenthal, Joseph A. Lee, Benjamin Sandler, Martha Luna Rojas, Alan B Copperman, Erkan Buyuk

1. Reproductive Medicine Associates of New York, New York, NY
2. Icahn School of Medicine at Mount Sinai, New York, NY

OBJECTIVE:

Patients with a previous cesarean delivery (CS) who underwent a single euploid Embryo transfer (SEET) have been shown to have a marked reduction in implantation, ongoing pregnancy and live birth. However, whether the mode of conception for the first pregnancy (i.e. spontaneous pregnancy vs pregnancy via assisted reproductive technology (ART)) and subsequent CS has any effect on the outcome of a subsequent SEET is yet to be understood. The objective of this study is to compare clinical outcomes of secondary pregnancy attempt via SEET in patients with initial ART treatment and primary CS compared to patients with initial spontaneous pregnancy and primary CS.

MATERIALS AND METHODS:

The study included all patients undergoing autologous SEET at an academic center with a prior CS from 2016 to January 2022. Cases included patients with 1 prior CS with history of ART treatment prior to their delivery. Controls included patients with 1 prior CS with history of a spontaneous pregnancy. Exclusion criteria included patients with >1 previous live birth, history of vaginal delivery and donor/recipient cycles. Only the first SEET cycle after the CS was analyzed. Our primary outcome was implantation rate (IR); secondary outcomes were ongoing pregnancy/live birth rate (OP/LBR), biochemical pregnancy rate (BPR), and clinical loss rate (CLR). Baseline demographics were obtained: age (at time of retrieval and transfer), body mass index (BMI), obstetric history, endometrial thickness at time of transfer (ETATT), and embryologic characteristics. Statistical analyses were performed using Student's t-test, Wilcoxon rank, and chi-square. Multivariable logistic regression models were used to calculate odds ratios and to adjust for confounders.

RESULTS:



308 SEETs met inclusion criteria and were included in analysis (cases n=213; controls n=95). Patients in the control group were older at time of retrieval and transfer (36.8 vs 34.5, $p=0.001$ and 38.4 vs 36.5, $p=0.004$) than those with history of prior infertility. Women in the case group had higher day 3 FSH levels (IU/mL) (6.2 vs 5.0, $p=0.02$) than their counterparts. Demographic data were otherwise similar. In univariate analysis, IR and OP/LBR were similar among groups. After adjusting for confounding factors, patients with a history of ART treatment and prior CS did not experience lower odds of implantation (aOR 1.24, 95% 0.27-2.2), live birth (aOR 1.03, 95% 0.60-1.7) nor higher odds of clinical pregnancy loss (aOR 0.7, 95% 0.2-2).

CONCLUSIONS:

Our study found no association with secondary IVF outcomes in patients with initial ART treatment and primary CS compared to patients with initial spontaneous pregnancy and primary CS.

IMPACT STATEMENT:

This is the first study to demonstrate that the mode of conception for the first pregnancy does not impact secondary IVF outcomes in women with history of a prior CS. Patients with prior infertility and CS can be reassured that the odds of achieving a healthy pregnancy are similar to those that did not have prior ART treatment.

REFERENCES:

N/A