

PERINATAL OUTCOMES AFTER EUPLOID IMPLANTATION FAILURE: A SART-CORS ANALYSIS

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INTRODUCTION

Background:

- Recurrent implantation failure (RIF) remains a nebulous diagnosis with unclear clinical significance
- To date, no studies have evaluated perinatal outcomes following RIF

Objective:

- To assess live birth and perinatal outcomes in patients with history of implantation failure (IF) after single euploid frozen embryo transfer

MATERIALS & METHODS

SART-CORS Database (2015-2020)

- **Inclusion:** All patients who underwent ≥1 transfer of single, euploid, autologous, vitrified-warmed blastocyst
- **Exclusion:** Donor oocyte/embryo, fresh transfer
- **IF Definition:** Negative bHCG or biochemical pregnancy
- Perinatal outcomes assessed for first live birth following prior IF within study assessment period. Results adjusted for patient age and BMI

RESULTS

Figure 1: Cumulative probability of live birth

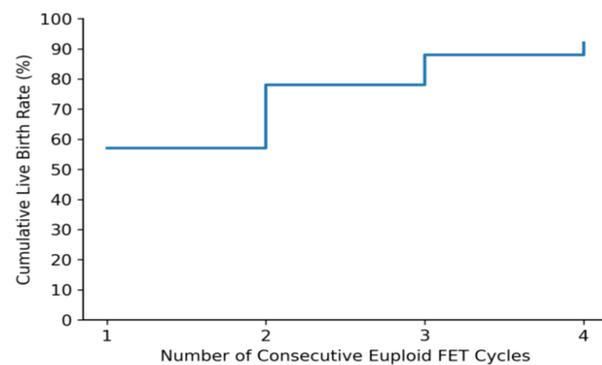
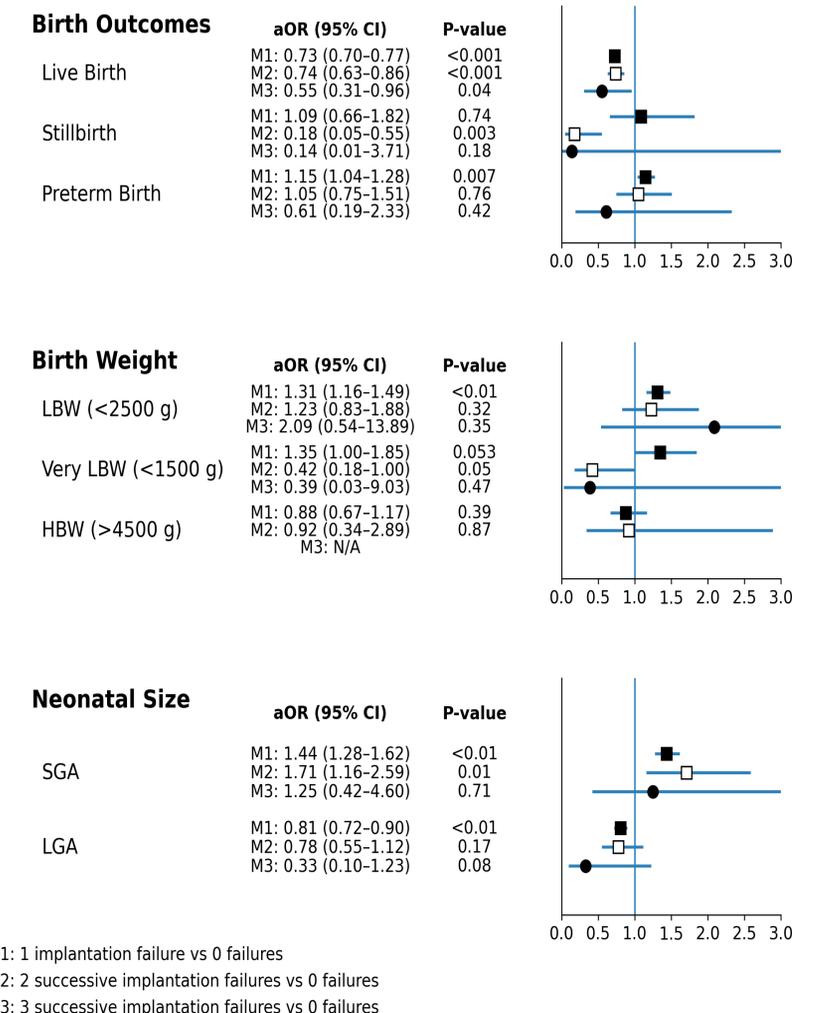


Table 1: Live Birth Outcomes by Cycle

Cycle 1: All first-time FET cycles – 57% live births (63639/111647)

Cycle #	Patients with implantation success in prior cycles [Live birth % (n)]	Patients with IF in prior cycles [Live birth % (n)]	Fisher's Exact p-value
2	56% (7972)	49% (9613)	<0.001
3	52% (2778)	44% (1468)	<0.001
4	49% (766)	39% (229)	<0.001

Figure 2: Association Between Number of Implantation Failures and Perinatal Outcomes



SUMMARY AND CONCLUSIONS

Results Summary:

- Cumulative live birth rate reached 92% after four transfers
- Incidence of live birth decreased with each subsequent transfer
- History of IF was associated with significantly lower odds of live birth
- Preterm birth (PTB) and low birthweight (LBW <2500g) neonates had significantly higher odds after one IF compared with no history of IF
- Small for gestational age (SGA) neonates were significantly more likely after one and two IFs
- No significant increases in rates of stillbirth, very low birthweight (<1500g), or high birthweight (HBW >4500g) neonates

Conclusions:

- History of a single IF is associated with modest increases in PTB, LBW, and SGA risk
- Multiple IFs are not associated with significant additional perinatal risk
- Despite the significant decline in likelihood of live birth with each failure, these results provide reassurance that a history of RIF is unlikely to compromise perinatal outcomes once viable pregnancy is achieved

ACKNOWLEDGEMENT

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