



EMBRYO TRANSFER TIME AND ITS IMPACT ON CYCLE OUTCOME

Dr Vedhapriya Sudhakar¹, Dr C. Mohamed Ashraf², Dr Noushin Ashraf³, Dr Dhannya Binoy⁴

¹ *Specialty Registrar Obstetrics and Gynaecology, Queen Elizabeth University Hospital, Glasgow*

² *Head of Department, ³ Consultant ⁴ Embryologist, Department of Reproductive Medicine, Craft Hospital and Research Centre, Kodungallur, Kerala , India*

Background

- Transfer of embryo(s) into uterine cavity is the final crucial and rate limiting intervention in an IVF cycle.
- A good ET technique is characterized by a gentle skilful atraumatic ultrasound guided placement of one or more embryos into the uterine cavity at the area of maximum implantation potential, usually by passing a catheter through cervical os without causing pain, bleeding or trauma to endometrium and embryos. It also necessitates a close collaboration between clinician and embryologist.
- The degree of difficulty in embryo transfer is regarded as an independent factor to predict pregnancy outcome^{1,2}.

Objective

The aim of this study was to determine whether the embryo transfer time from incubator to uterine cavity influenced the cycle outcome in view of the conflicting evidence available in literature^{3,4,5,6}.

Methods

- **Retrospective Cohort Study;** Inclusion and exclusion criteria as per figure 1.
- Flexible antagonist protocol used. When adequate stimulation was achieved (≥2 follicles of at least 18 mm in diameter), trigger was administered. Following that, Oocyte retrieval was performed 36-37 hours later. Conventional IVF/ICSI following standard techniques was used for fertilization. Embryos were frozen by vitrification on day 3 or day 5 according to quality.
- A maximum of three embryos were transferred in prepared endometrium of minimum 8mm thickness in a cryopreserved cycle under ultrasound guidance by consultants. Use of type of soft catheter and technique was according to the operator’s preference.
- Statistical analyses were performed with the SPSS software package, version 23 (SPSS, Chicago) using Chi-square and ANOVA tests

Outcomes

- The primary outcome assessed was live birth rate (LBR) and clinical pregnancy rate (CPR)
- Secondary outcomes were implantation rate (IR) and miscarriage rates(MR).

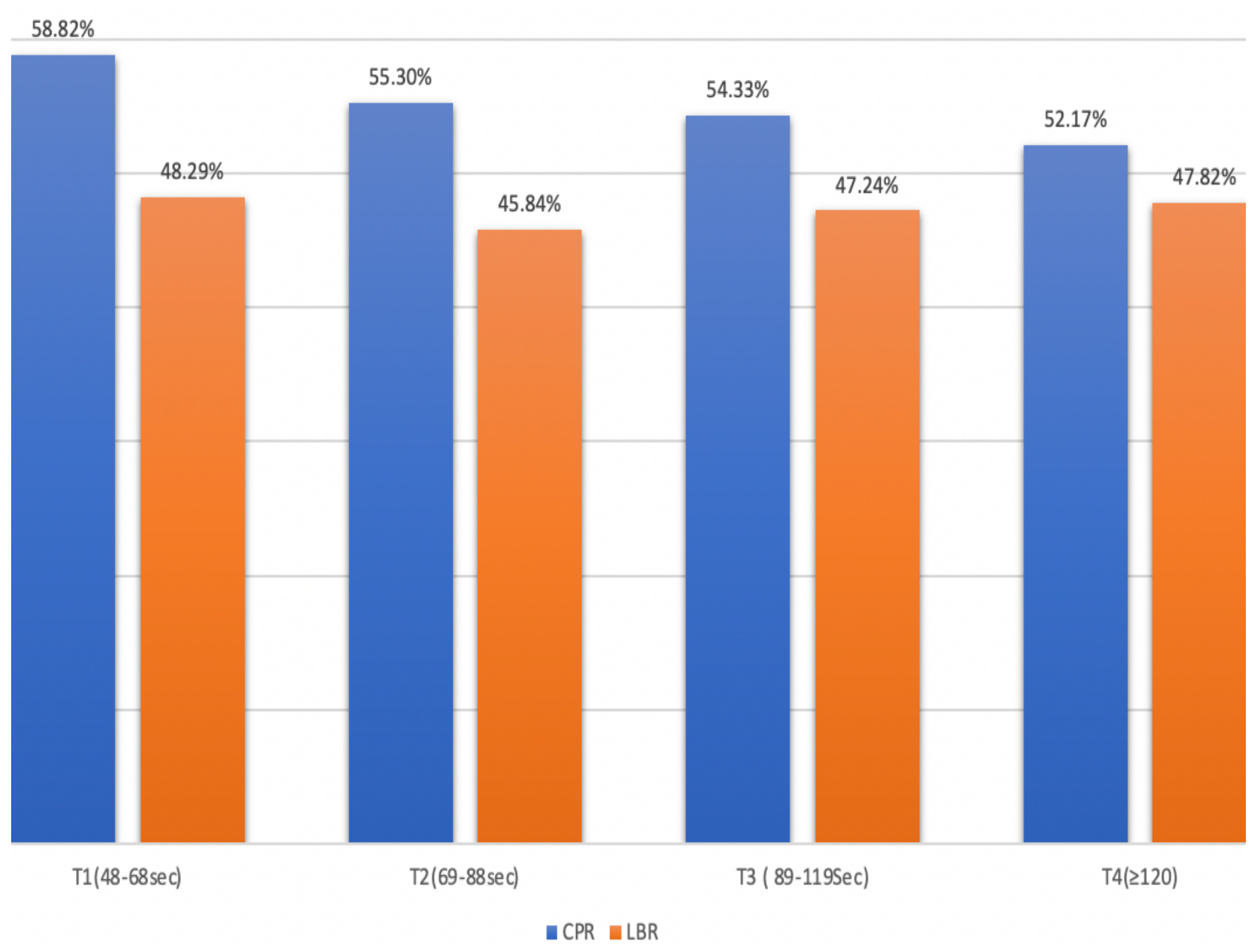
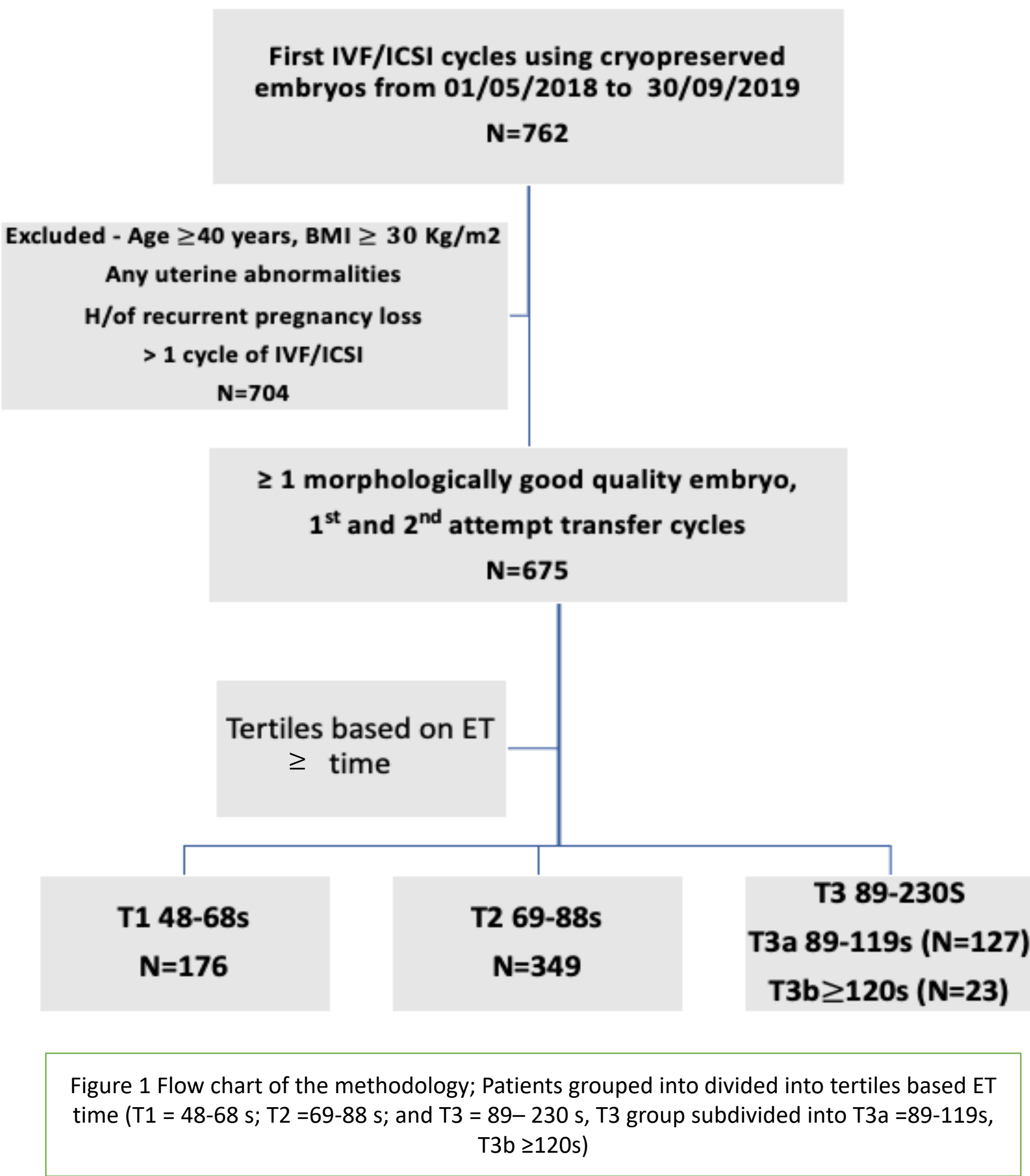


Figure 2: showing the CPR and LBR in respective tertiles

Study Question

Can embryo transfer (ET)time from the incubator to the deposition into the uterus affect the cycle outcome ?

Main Answer

Our data suggests difficult and longer embryo transfer times does not influence live birth rate.

Results

- Demographic data was similar between the groups.
- The mean transfer times according to tertiles T1, T2, T3a, T3b were 62.5, 77.5, 96.9 and 150.5 seconds respectively.
- Primary outcome including CPRs were 58.82%, 55.30%, 54.33%, and 52.17% in the respective tertiles, LBRs were 48.29%, 45.84%, 47.24% and 47.82% (Figure 2)
- Similarly, the IRs were 36.9%, 32.9%, 34.6% and 32% according to the successive tertiles and MRs were 18.75% 13.75% 12.59% and 8.69%.
- **Comparison of CPR, LBR, IR, MR among tertile groups individually and adjusted odds ratio for the LBR did not show statistical significance.**

Conclusion(s):

- The study showed longer ET times **do not** negatively affect CPR, IR, or LBR after adjusting for potential confounders.
- **Afterload technique** may be preferable in anticipated difficult transfer.

- **Strengths-** Large sample size, Single institution study
- **Limitations-** Retrospective nature, Previous surgical history and fresh cycles not included

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