

SASREG Embryo transfer guidelines

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Introduction

- Success in ART should be “HEALTHY TERM BABY”
 - Not only based on pregnancy rates and livebirth rates
 - Aim to reduce perinatal morbidity and mortality associated with ART
 - Multiple pregnancies increase financial burden on Obstetric and neonatal services
 - “Registry studies provide unequivocal evidence of both short and long-term health risks in ART offspring born from multiple pregnancies. SET and vitrification now provide the means to reduce the risks” (BEST OF ESHRE & ASRM 2019)
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Elective single embryo transfer(e SET)

- Trend towards e SET in good prognosis patients
 - Conflict – ensuring high success rates vs promoting e SET
 - Anxiety for both doctors and patients regarding failed treatment
 - Lack of funding provision – increased costs with repeated treatment
 - Taking patient wishes into consideration
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Does e SET reduce success rates?

- RCTs show increased success rates with dual embryo transfer (DET)
 - Outcomes based on pregnancy rates and live birth rates
 - Most studies on good prognosis patients, < 35 or <37
 - Very few comparing single blastocyst VS double blastocyst transfer
 - No difference in cumulative live birth rates with single DET VS 2 SET, either with 2 fresh IVF cycles or fresh IVF cycle followed by FET (Cochrane Database of Systematic reviews 2013- 14 RCTs)
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Is it justified to transfer 2 embryos in oocyte donation

- A pilot RCT(Elisabeth Clua et al- 2015)
 - 65 patients with at least 2 good quality embryos
 - 34 e SET and 31 e DET
 - The cumulative pregnancy rates(e SET 73.5% and e DET 77.4%.RR 0.95,95CI 0.72-1.25) and livebirth rates(e SET 58.8% and e DET61.3% RR0.96,95%CI 0.64-1.42) were similar in both groups
 - Twin pregnancy rate, 47.7% e DET and 0% e SET
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Does a twin pregnancy constitute a negative outcome

- Enough evidence showing poor perinatal outcomes with IVF twins
 - Mainly – increased preterm delivery, LBW, PET, C/S , Stillbirths
 - 5 big studies reviewed with similar conclusions:
 1. WHO multi country survey(Santana et al, 2018)
 2. Data from all Swedish IVF clinics 2002- 2006(Sazanova et al,2013)
 3. Systematic review and meta-analysis, 16 studies, 8RCTs(Grady et al,2012)
 4. Data from all embryo transfers in Australia and NZ 2004-2008(Sullivan et al,2012)
 5. Review of US National Reproductive Technology Surveillance System(Kissin et al)
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Does a twin pregnancy constitute a negative outcome

- Grady et al (systematic review and meta-analysis, 16 studies, 8 RCTs)
- Compared with DET-conceived infants, e SET conceived singletons were less likely to be born either preterm (RCT-based RR 0.37, 95% CI 0.25-0.55) or with LBW (RCT-based RR 0.25, 95% CI 0.15-0.45)
- Sazanova et al - data from all Swedish IVF clinics 2002-2006
- Compared perinatal outcomes, IVF twin pregnancies (n=991) vs 2 IVF singleton pregnancies (n=921)
- IVF twin pregnancies had significantly higher rates of PET, PPRM, C/S delivery with significantly higher rates of neonatal complications

New SASREG embryo transfer guidelines

- Reviewed ASRM, NICE and previous SASREG embryo transfer guidelines
- Challenges include the following:
 - No studies in Africa
 - Funding – IVF in SA mostly patient funded
 - Travelling patients and increased costs if have to return after failed IVF treatment

New SASREG Embryo Transfer Guidelines

- Should consider:
 - Age of patient
 - Own oocytes or donor oocytes
 - Favourable factors
 - Pregnancy risk factors
 - Favourable factors: good ovarian reserve, 2 or more good quality embryos for freezing, previous successful IVF treatment
 - Pregnancy risk factors: ↑ BMI, ↑age, comorbidity and previous Obstetric history
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NEW SASREG embryo transfer guidelines

Egg donation – SET

Woman < 37

- SET
- if no top quality embryo, then 2 embryos, provided no increased obstetric risk factors

Woman 37-39 – 2 embryos, if no increased obstetric risk factors

Woman 40-42 – 2 embryos



Performing the Embryo Transfer

- Transabdominal ultrasound improves pregnancy rates (10 RCT, Grade A)
 - Use of soft catheter improves pregnancy and LBR (3RCT 4 Cohort, Grade B)
 - Removal of mucus plug from endocervical canal (Grade B)
 - Placement of transfer catheter tip in the upper or middle cavity greater than 1cm from fundus (Grade B)
 - Immediate ambulation after the Embryo transfer (Grade A)
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Conclusions

- Guidelines are not the law, there to guide good practice
 - There is compelling evidence that IVF multiple pregnancies result in increased perinatal morbidity and mortality
 - A shift from pushing for high pregnancy rates towards aiming for healthy term babies is required
 - Patients to be informed of risks associated with IVF multiple pregnancies and these risks should be included in the consent form.
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