

Editorial

Avoiding Multiple Pregnancies In ART

Newer drugs and regimens to induce ovulation and Assisted Reproductive Techniques (ART) have revolutionized the management of infertility. But they have brought in their wake a rising incidence of multiple pregnancies over the past decades.

Women undergoing in-vitro fertilisation (IVF) face a 20 fold increased risk of twins and 400 fold increased risk of higher order pregnancies¹. In IVF, the usual practice of transferring two or more embryos to achieve higher pregnancy rates results in higher incidence of multiple births. The World Collaborative report on IVF figures for 1995 showed that 24.7% of the pregnancies were twins, 4.1% were triplets and 0.2% were quadruplets².

Strategies to limit multiple pregnancies in ART

The need to limit multiple pregnancies is obvious. The strategies to do so may be developed at the following stages -

- 1) Ovarian stimulation phase
- 2) Laboratory phase
 - i) individualisation of regulation of embryos transferred
 - ii) transferring a fixed number of embryos
 - iii) blastocyst transfer
- 3) Post-implantation phase – embryo reduction

Ovarian stimulation

In a review by Norwitz³, ovulation induction accounted for 10-69% of the triplet gestations and ART accounted for 24-30% of them. Higher order multiple gestations i.e. quadruplets and above were associated with controlled ovarian stimulation in 50-72% and with ART in 42%³. The risk factors that have been associated with multiple pregnancy occurrences are an increased total number of follicles, age >32 years and serum E₂ levels > 862 pg/ml. There are no

absolute preventive strategies but different solutions have been proposed.

- i) Cancellation of the cycle when there are 3 or more follicles of 16mm size or larger⁴.
- ii) Superovulatory preovulatory follicular reduction⁵.
- iii) Milder ovarian stimulation as proposed by Alagne and Ragni⁶ 1150 IU/d of recFSH given starting from day 3 of the cycle, GnRH antagonist 0.25 IU/d started when the mean follicular diameter is 13-14mm. In this study, 69 women were recruited, 56 cycles were evaluated and the clinical pregnancy rate was 34.8%. The monofollicular cycles were consistently associated with singleton pregnancies.
- iv) Natural unstimulated IVF cycles : a natural IVF cycle offers simpler, quicker and less invasive form of IVF than the more conventional stimulated form of IVF.

Individualisation of embryo transfer

A number of IVF teams consider that individualisation according to different criteria is the best way to improve the chance of singleton pregnancy. The following have been outlined.

- i) Maternal Age : Perhaps this is the single most important variable in determining success and risk of multiple pregnancies. When transferring embryos of optimum quality, patients younger than 34 years of age experienced relatively modest improvements in clinical pregnancy rates at the cost of significantly increased chance of multifetal gestation, when the number of embryos transferred was increased from two to three⁷.
- ii) Rank of attempt : A previous failed IVF attempt had a 26% lower chance of multifetal gestation.
- iii) Embryo quality : An embryo of good prognosis would generally exhibit six cells on day 3, regular

omeres and absent fragmentation⁸.

isation rate and superonumary embryos: The sation rate is linked to the rate of multiple ancies. With a fertilisation rate of less than the pregnancy of twins is 17.1% and that of ts is 20.3%. These rates rose to 23.6% and , respectively with a fertilisation rate of more 50%⁹.

ing a fixed number of embryos

r the best available strategy for preventing births seems to be limiting the number of for transfer. A cryopreservation program of mary embryos is essential when the number of o be transferred is limited. The risk of triplets imized without affecting the overall birth rate rring two embryos instead of three. The British ociety encourages units in the UK to limit s to two embryos per transfer. Pregnancy rates arable between single and double embryo ycles¹⁰.

t transfer

le, transfer of a single good quality blastocyst a singleton pregnancy rate of 55% with a total n of multiple pregnancies as reported by Surrey

education

etal reduction, as a strategy to reduce the f multiple births has been used worldwide. ollaborative data reporting satisfactory or the children and limited risks for the mother, of intervention raises serious ethical and ical problems¹².

n

of multiple pregnancies with an otherwise ART cycle can hinder the achievement of the al of healthy mother and child. Gentle ovarian n and elective transfer of the least feasible embryos in IVF holds the key to this complex

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