

Obstetrics; Maternal - Fetal Medicine and Perinatology

The Evaluation of Multiple Birth Rates For Patients Who Had IVF-ET Procedure in Our Clinic

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OBJECTIVE: We evaluated the multiple birth rates for the patients who had undergone IVF-ET procedure in our clinic.

STUDY DESIGN: Total number of births and the amount of the births following assisted reproductive techniques (ART) in 2006 in Gulhane Military Medical Academy was investigated. We determined the multiple pregnancy rates among the total births, and our overall success rates, and compared those with the embryo transfer policies and the multiple pregnancy rates of other countries.

RESULTS: 120 out of 1797 births (6.6%) in 2006 was the result of ART. A total of 345 embryo transfers made resulted in 176 pregnancies (51%). Live birth rate per embryo transfer was 35%, (120/345). Multiple births were 42 (2.5%), and all were the result of the ART. The ratio of multiples in ART pregnancies were 35%, (42/120).

CONCLUSION: Elective single embryo transfer should be promoted by explaining the patients the possible complications of the multiple pregnancies in detail.

Key Words: IVF-ET, Multiple Pregnancies, Multiple Births

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Introduction

ART has successful outcomes in fertility problems of the females, males or both. First successful outcomes were reported by Drs. Steptoe and Edwards in 1978.¹ Today 2-4% of all births in many countries are the results of ART pregnancies.² But the number of multiple pregnancies are increasing along with the successful outcomes. In USA and European countries 26.4% to 35% of ART pregnancies are resulting in multiple births.² Many studies show that ART babies have higher perinatal morbidity and mortality compared to spontaneous conceptions.^{3,4,5} Main reason for that is the higher rates of multiple pregnancies and multiple births, and the concomitant prematurity risk. It has also been shown that ART babies had higher neurological sequelae.⁶ Another study though, reported no differences in neurological sequelae between spontaneous twins, IVF twins and singletons.⁷

Recently many studies were conducted on single embryo transfer to decrease multiples. First study came from Finland

and suggested that with a proper patient selection, this method could be applied successfully.⁸

We evaluated the ART births and the multiples rates within those births.

Material and Method

The total birth count, the proportion of the ART births, and the multiple pregnancy rates among those ART births in Gulhane Military Medical Academy in 2006 are evaluated. Total number of all births at our clinic is 1797 in 2006. 120 of these are ART births. 42 of ART births are multiple births. Additionally, the ART pregnancies which are present in our IVF unit are followed by our clinic. The overall success rates, and the relation of single embryo transfer policy with these numbers are discussed. The results are compared with the results and the transfer policies of other countries.

Results

120 out of 1797 deliveries in 2006 were the results of ART (6.6%). 345 embryo transfers resulted in 176 pregnancies (51%), the number of embryo transfer is mean 2.18 and single embryo transfer is 49. Live birth rate per embryo transfer was 35% (120/345). The other 56 pregnancies are results of abortus during first and second trimester. Multiple births which are whole twin were 42(2.5%), all the results of ART pregnancies. The proportion of multiple births in ART pregnancies were 35% (42/120) (Table 1).

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Table 1: Gülhane Military Medical Academy Dept. Of Obstetrics and Gynecology, 2006 ART and birth outcomes

PR / ET	176/345	(%51)
IVF births/ET	120/345	(%35)
IVF births /Total births	120/1797	(%6.6)
Multiple births / Total births	42/1797	(%2.5)
Multiple births / IVF births	42/120	(%35)

PR: Pregnancy rate ET: Embryo transfer IVF: In vitro fertilization

Discussion

The results show a high rate of multiple pregnancies after the ART. The general statistics reveal a twinning rate around 1/85, but ART pregnancies may end up in multiple pregnancies in as high as 35% of the cases. Our clinic does not have an elective single embryo transfer (eSET) policy at the moment. The reasons for this is the unwillingness of the couples, and the lack of social security system support on the matter. The expensive ART treatment causes problems for the couples and for the social security system.

The Scandinavian countries lead on the studies on decreasing multiple pregnancies, both to decrease neonatal complications of prematurity and to increase the overall success rates of pregnancies. The financial analyses show that two embryo transfer is 3 times more expensive than the single embryo transfer when the overall expenses are calculated. 3 embryo transfer is 15 times more expensive.⁹ We did not do a cost analysis during our study, but it is a reality that the neonatal intensive care for prematurity is the most expensive treatment. In Sweden, no triple embryo transfer has been done since 1993. Thus, the possibility of triplets are eliminated. With this approach, twin birth rates has not changed (about 25%), but the mean pregnancy and birth rates per embryo transferred has been around 25–35%.¹⁰

eSET seems promising for decreasing multiple births. Elective single embryo transfer can be suitable for women under 35 year old, who does not want multiple gestation, who is normally responding (AFC: 5–10), with normal ovarian reserve (FSH <10), who did not had previous IVF failure, premature delivery, uterine surgery and without mullerian abnormalities.¹¹ The couples should be counseled about eSET in detail. The chances of pregnancy should be discussed. The most frequent problem is the unwillingness of the patients, since these couples tend to have high expectation of pregnancy following the years of long treatment, making them long for high success rate. The peri and post partum course of multiple pregnancies, therefore, should be told in detail using the support of scientific data to the families.¹²

Considering the complications of multiple pregnancies in antenatal, perinatal and post natal periods, it is very important that the ART as recent the main cause of multiples, should be

scientifically very well evaluated and a trend towards singleton pregnancies should be supported.

For this, the medical team should be very well educated and motivated, and the couples should be counseled about maternal, fetal and neonatal outcomes and consequences of ART and multiple pregnancies, including the medical, psychological, financial and social problems.

Kliniğimizde IVF-ET Uygulanan Hastalarımızdaki Çoğul Doğum Oranlarımızın İrdelenmesi

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Gülhane Askeri Tıp Akademisi Kadın Hastalıkları ve Doğum kliniğindeki 2006 yılında gerçekleşen toplam doğum sayısı ve bu doğumlardaki yardımcı üreme tekniklerinin oranını araştırdık. Ayrıca bu doğumlar içerisinde çoğul gebelik doğum sayısını belirleyerek, genel başarı oranımız ve bu konudaki embriyo transfer politikası ile diğer ülkelerin aynı konudaki oranlarını karşılaştırdık.

2006 yılında gerçekleşen toplam 1797 doğumdan 120 tanesi yardımcı üreme tekniklerinden elde edilen gebeliklerdir (%6.6). Yine 2006 yılında 345 embriyo transferi yapılmış ve 176 gebelik elde edilmiştir (%51). Embriyo transferi başına canlı doğum oranı %35'dir (120/345). Çoğul doğum sayısı 42 (%2.5) iken bu doğumların tamamı yardımcı üreme teknikleri sonucu elde edilen gebeliklerdir ve bu gebelikler içerisindeki oranı da %35'dir (42/120).

Hastalara doğum sonrası ve gebelik sırasında çoğul gebeliklerin olası komplikasyonları hakkında detaylı bilgiler verilerek hastalar elektif tek embriyo transferine özendirilmelidir.

Anahtar Kelimeler: IVF-ET, Çoğul gebelikler, Çoğul doğumlar.

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