

Case Report: Successful of a *In Vitro* Fertilisation Quadruplet Pregnancy

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Received: April 08, 2024; **Published:** April 24, 2024

Abstract

Objective: To report a rare case of successful pregnancy and delivery of two pair of twins (quadruplets).

Methods: We reported a case report of a 32-year-old nulligravida, who had successful *in vitro* fertilization quadruplet pregnancy.

Results: Successful pregnancy and delivery of four male twins in the 31st week of pregnancy.

Keywords: Quadruplets; Pregnancy Care; Delivery; Monozygotic Twins; Dichorionic Quad Amniotic; Monoamniotic; Monochorionic

Introduction

In vitro fertilization pregnancies with more than two fetuses are very rare.

Today many multiple pregnancies are the result of *in vitro* fertilisation (IVF). In a 1997 study of 2,173 embryo transfers performed as part of *in vitro* fertilisation (IVF), 34% were successfully delivered pregnancies. The overall multiple pregnancy rate was 31.3% (24.7% twins, 5.8% triplets, and .08% quadruplets) [1].

The rarity of high order multiple pregnancies can be appreciated by the quasi-mathematical Hellin-Zeleny rule for twins, triplets and quadruplets. According to this law, if the frequency of twins in a population is $1/N$, then the frequency of triplets $1/N^2$ and quadruplets $1/N^3$ [2].

As compared with singleton pregnancies, quadruplets, and in particular monochorionic pregnancies, are associated with a higher risks of hypertension, incompetent cervix, premature rupture of membranes, preterm labor and stillbirths

Counseling of these patients is challenging by the lack of information regarding the outcome of multiple pregnancies, particularly supermultiples.

The management of multiple gestations creates special problems for the obstetrician.

Early diagnosis and correct management are essential for a successful outcome. In particular the ultrasound controls and daily monitoring of vital signs, maternal nutritional status and regular visits.

Case Report

It's a case of 32-year-old, Indian woman with an IVF quadruplet pregnancy.

The patient had multiple failed trials of IVF in her home country as primary infertility for 13 years.

She is a known case of essential hypertension, hypothyroidism, PCOS with class-II obesity, BMI 32.8, 82 Kg and 158 cm height. Who developed gestational diabetes during this pregnancy.

At her dating scan at 8 weeks gestational age a triplets pregnancy diagnoses was made through her NT scan was within normal findings through to her feto-maternal scan at 15 weeks GA a diagnoses of quadruplets was made and the couple were counselled about the findings and the risks. At 18 weeks plus there detailed scan was reassuring with no signs of TTTS for the first, second and third twins as they are monochorionic.

At the 31st week of gestation ultrasound showed four viable all in transverse lie and fetus C with positive end diastolic flow with intermittent absent of EDF of the UA and the placenta was posterior away for the first three fetuses and last fetus was placenta anterior away, the liquor volume was normal except for the third fetus it was a bit reduced.

During the pregnancy she was on labetalol, clexane, aspirin, L-thyroxine and metformin (which she stooped) she received dexamethasone for lung maturity.

At the 31st week + 5 days gestational age cesarean section was performed. Many reasons exist why cesarean section is the most common mode of delivery for multiple pregnancy and indicated in all high order multiple pregnancies [3] four male newborns delivered alive. Three sharing the same placenta and one with his own placenta.

The babies APGAR score was 8 and 9 with weight ranging from 1.4 Kg to 1.7 Kg and they were resuscitated by supplemental oxygen. Then they were admitted to NICU.

Patient recovered without any complication and was discharged home on the 3rd day post operative day. Newborns were discharged between 30 to 40 days after delivery in stable condition.

Newborns showed satisfactory weight gain.

Discussion and Conclusion

This is a rare case of successful IVF quadruplet pregnancy.

As a part of our study we found that the frequency of multiple pregnancies with more than two fetuses has increased considerably since the introduction of methods of ovulation induction, *in vitro* fertilization and embryo transfer.

Management, diagnosis, ultrasonographic controls and doppler parameters in addition of cardiocotogram was important for wellness and survey of the fetuses. The mode of delivery, prenatal care has been shown to be effective in improving outcomes in this multiple pregnancy.

Regardless of these and other specificities related to the multiples, by far the most important issues influencing outcome of multiple pregnancy are gestational age and birth weight. The latest USA figures suggest that the incidence rate of very preterm births (< 32 weeks) for singletons was 1.23%, as compared to 10.58% for twins and 39.27% for triplets. These figures translate into the incidence rate of 1 - 7% low birth weight (< 1500g) singletons as compared to 9.56% for twins and 36.96% for triplets [4].

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Volume 13 Issue 5 May 2024

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