

Spontaneous Monochorionic Tetra-amniotic Quadruplet Pregnancy at Term

Daniel Nnadi, Ango Ibrahim, Emmanuel Nwobodo

Department of Obstetrics and Gynaecology, Usmanu Dan-Fodiyo University Teaching Hospital, PMB 2370 Sokoto, Nigeria

ABSTRACT

Following a 12-year history of unexplained primary infertility, a couple achieved a spontaneous quadruplet pregnancy by natural conception. The pregnancy was complicated by pregnancy-induced hypertension. She had an elective caesarean section at 37 weeks and was delivered a set of monochorionic tetra-amniotic quadruplets. The immediate postnatal and early neonatal periods were uneventful.

KEY WORDS: Quadruplet pregnancy, spontaneous, term delivery

INTRODUCTION

Higher order multiple pregnancies occur when more than two fetuses are present in the uterus at the same time.^[1] They are rare and constitute high-risk maternity.^[1,2] The incidence ranges from 0.01% to 0.07% of all pregnancies. In resource constrained countries, it is usually as a result of racial predisposition.^[2] Maternal mortality and morbidity are greater in quadruplet pregnancy than in singleton pregnancy. The perinatal mortality and morbidity are also relatively high and are mainly due to premature delivery. More than 90% of higher order multiple pregnancies are born prematurely.^[3] Quadruplet pregnancy that is carried to term is a rare event and occurs in less than 3% of cases.^[1] We present a case of 32-year-old primigravida that had a natural conception of quadruplet pregnancy following 12 years of primary infertility and was delivered of a set of monochorionic tetra-amniotic quadruplets at term by elective caesarean section. Mother and neonates were discharged in good condition.

CASE REPORT

The patient was a 32-year old primigravida came to book for antenatal care in our center at 8 weeks gestation. Except for spotted vaginal bleeding on the previous day, she had no complain. However, she had a 12-year history of primary

infertility before conception. The cause of infertility could not be identified. She had several courses of ovulation induction with Clomiphene Citrate (which was prescribed by a private medical practitioner) without success. She had the last course of the drug 4 years prior to her spontaneous conception. She is a house wife and the only wife of a primary school teacher. She has no family history of multiple gestations. Her booking weight, height and blood pressure were 68 kg, 160 cm and 120/80 mmHg respectively. On abdominal examination the fundal height was equivalent to a 16-week intrauterine gestation. Her urinalysis was normal for glucose and protein. A trans-abdominal ultrasound revealed a bulky uterus containing four distinct gestational sacs each containing a fetal pole with good cardiac activities, crown Rump length of 14.3 cm equivalent to 7-weeks gestation, single placenta, and closed internal Os (monochorionic tetra-amniotic quadruplet). An assessment of primary gravida with quadruplet pregnancy at 7-weeks gestation with a past history of primary infertility was made. She was counseled on bed rest and was scheduled for admission at 28 week gestation (based on the departmental policy). The pregnancy remained uneventful until at 28 weeks when she presented in the clinic with difficulty in breathing and dizziness. There was no significant finding on general and systemic examination except for a blood pressure of 130/90 mmHg. The packed cell volume was 30% and urinalysis revealed normal findings. She was admitted and encouraged to lie in left lateral position and her symptoms abated. Regular fortnightly ultrasound for assessment of fetal well-being did not reveal any abnormality.

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Address for correspondence

Dr. Daniel Nnadi,

Department of Obstetrics and Gynaecology, Usmanu Dan-Fodiyo University Teaching Hospital (UDUTH), PMB 2370 Sokoto, Nigeria.

E-mail: dc_nnadi@yahoo.com

She remained on admission for the rest of her pregnancy. She had Dexamethasone 12 mg intra-muscularly for 2 doses at 31 weeks gestation. Her general condition remained stable except for occasional difficulty breathing which responded to postural changes.

At 37 weeks gestation, she had elective caesarean section under spinal anaesthesia and was delivered of a set of quadruplets. The first and second quadruplets presented breech, while the third and 4th presented shoulder. The neonates were all females. There was a single huge placental mass. The fetal membranes were monochorionic but there were four separate amniotic sacs with no sign of intervening chorion between them. Their birth weights ranged from 1470-1870 grams [Table 1]. The placenta weighed 1.32 Kg. The estimated blood loss was 1.2 liters. Two units of blood were transfused intra-operatively. Her post-operative recovery was uneventful. The neonates remained in the neonatal unit for seven days before they were returned to their mother. Infant feeding was established after due consultation with the Paediatricians. The mother and her neonates were discharged on 8th postpartum day in good health.

DISCUSSION

Spontaneous quadruplet pregnancy is very uncommon with an incidence rate of 1 in 512000 to 1 in 677, 000 births.^[2,3] However, the incidence of quadruplet gestation from assisted reproductive technologies and use of ovulation inducing drugs is increasing.^[3-5] Obstetricians and Paediatricians are often called upon to advise couples early in these pregnancies about potential outcomes. In some cultures, multiple births are not welcome, while quadruplets are seen as an abnormality.^[4] Similarly, the socio-economic status of the families influences outcome, and media coverage does not always improve their financial status.^[6] In Nigeria as in other developing countries of the world, corporate sponsorship is not very common.

The case presented had no family history of multiple pregnancies and did not receive assisted reproduction. Four years prior to presentation she had an uncompleted course of Clomiphene citrate for ovulation induction. Cases of quadruplet pregnancies have been reported following the cessation of Clomiphene citrate for ovulation induction,

the so-called "sustained effect,"^[4] but 4 years is such a long period to attribute it to this phenomenon.

The management of quadruplet pregnancy poses a challenge to an obstetrician. This is because all the complications of pregnancy, labour and delivery are exaggerated.^[7] When suspected, an early ultrasound scan is advised. In the case presented, accurate diagnosis was made by three-dimensional Ultrasonography which did not only estimate the gestational age, but also determine the chorionicity. It is well established that chorionicity rather than zygosity determines the outcome in multifetal pregnancies mainly because of increased risk of transfusion syndromes in addition to problems of prematurity.^[6] Maternal complications such pre-eclampsia and vaginal bleeding during pregnancy were noted in this patient. It has been stated that about 22% of the women with multiple pregnancy were admitted to the hospital because of vaginal bleeding at some time during their pregnancy.^[8] The scanty vaginal bleeding may have been a threatened miscarriage.

The main fetal complication of multiple pregnancies is prematurity with its concomitant increase in perinatal mortality and morbidity.^[1,9] It is stated that the average gestational age at delivery for twins is 35 weeks, triplets 32.2 weeks quadruplets 29.9 weeks and quintuplets 28.5 weeks.^[3,10] This presents the greatest challenge to the obstetrician as there is no clear cut approach to its management and prevention. Bed rest, beta mimetic drugs, progestogens and elective cervical Cerclage have all been reported to have a beneficial effect in prolonging pregnancy in some literatures, but the results are yet to be substantiated by controlled trials.^[3,4,8]

The patient was managed with bed rest and regular weekly fetal biophysical profile in the hospital. A combined team approach with the neonatal unit of the Paediatric department was employed. Term delivery is rare in quadruplet pregnancies because of high incidence of spontaneous preterm delivery and other pregnancy complications such as pre-eclampsia and preterm premature rupture of fetal membranes.^[2] The preferred method of delivery of quadruplet pregnancies is elective Caesarean section. This is because of increased risk of fetal mal-presentations and difficult intra-partum fetal monitoring associated with the condition.^[2,8] In conclusion, though spontaneous premature delivery and other pregnancy-related complications are common in quadruplet pregnancies and adversely affect outcome; this should not always be the norm. With early detection, bed rest and good antenatal fetal monitoring, quadruplet pregnancies can be carried to term and be safely delivered by elective caesarean section as demonstrated in the case presented.

Table 1 : Birth summary

Baby	Sex	Apgar score at 1 st and 5 th min	Birth weight (Kg)
1	Female	7,8	1.47
2	"	7,9	1.83
3	"	6,8	1.75
4	"	4,8	1.87

Total birth weight: 6.92 kg

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