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■ Case Report

Quadruplet Pregnancies and Births in a Tertiary Center in Northern Nigeria: A Report of 2 Cases

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ABSTRACT

Background: The occurrence of a quadruplet pregnancy is exceptionally rare and profoundly remarkable which is often caused by ovulation induction, spontaneously or by In vitro fertilization (IVF). Spontaneous pregnancies with more than two fetuses are very rare. Currently, Quadruplet pregnancy has a prevalence of 1 in 512,000 to 1 in 677,000 births in spontaneous pregnancies however assisted reproduction has increased it remarkably (1,2). Quadruplet pregnancy is considered a high-risk pregnancy due to increase in maternal, fetal and neonatal morbidity and mortality (3) .Hence a multidisciplinary approach is essential for a successful outcome. These case reports capture both, a spontaneously conceived quadruplet pregnancy and an IVF pregnancy in a tertiary center in northern Nigeria. **Case Series:** The First case was a 50-year-old known hypertensive. G4P0+3 who had IVF with 4 embryos transferred and had prophylactic cerclage at 18 weeks. She developed Gestational diabetes diagnosed at 28 weeks and was comanaged with the endocrinologist and cardiologist, and later booked for an elective C/S at 34 weeks which was successfully done. All male neonates were delivered with good Apgar scores and weighing between 1300 and 1600 grams. The Second case was a 27-year-old G5P4+0 3 alive, a referral from a general hospital at 31 weeks' gestation. She had an Emergency C/S, delivering 4 live male neonates with good Apgar scores and weighing between 1400 and 1700 grams. It was confirmed pair of monochorionic diamniotic. **Management Summary:** Management, initiated upon diagnosis, included bed rest, high-protein diet, beta-mimetic agents, dexamethasone late in the second trimester, selective cerclage and in particular the intensive ultrasonographic controls with biophysical and Doppler parameters was important for wellness and survey of the fetuses. The mean gestational age of 34 weeks when we planned a Cesarean section and prenatal care has been shown to be effective in improving outcomes in these multiple pregnancies. **Conclusion:** Spontaneous conception of quadruplets pregnancy does occur. Successful supervision of Pregnancy and delivery of quadruplet pregnancy with good outcome for mother and infants is possible using a multidiscipline approach as demonstrated in these two cases.

Keyword: Quadruplets, Pregnancy Care, Delivery, Tertiary Health Center

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INTRODUCTION

The occurrence of a quadruplet pregnancy is exceptionally rare and profoundly remarkable which is often caused by ovulation induction, spontaneously or by In vitro fertilization (IVF).[1] Spontaneous pregnancies with more than two fetuses are very rare. Hellin's Law states that before the advent of fertility methods, the natural occurrence of multiples would be Twins 1 in 90 live births, Triplets 1 in 8,100 live births,

quadruplets 1 in 729,000 live births and Quintuplets 1 in 65,610,000 live births but those numbers have decreased to 1/38, with techniques of assisted reproduction It is estimated that 60% of triplets are from fertility treatments, 90% of quadruplets are from fertility treatments, and 99% of quintuplets are due to fertility treatments. [2]

Currently, Quadruplet pregnancy has a prevalence of 1 in 512,000 to 1 in 677,000 births in spontaneous pregnancies however assisted reproduction has increased it remarkably[2,3]. Quadruplet pregnancy is considered a high-risk pregnancy due to increase in maternal, fetal and neonatal morbidity and mortality[4].

As compared with singleton pregnancies, quadruplets, are associated with a higher risks of hypertension, incompetent cervix, premature rupture of membranes, placenta previa, abruptio placenta, first-trimester bleeding, preterm labour, anemia, stillbirths and perinatal deaths. [5]

Hence a multidisciplinary approach is essential for a successful outcome. These case reports capture both, a spontaneously conceived quadruplet pregnancy and an IVF pregnancy in a tertiary center in northern Nigeria.

CASE SERIES

The First case was a 50-year-old known hypertensive. G4P0+3 who had IVF at a tertiary hospital in northern Nigeria with 4 embryos transferred and had prophylactic cerclage at 18 weeks. She developed Gestational diabetes diagnosed at 28 weeks and was co-managed with the endocrinologist and cardiologist with appropriate medications, had uneventful antenatal period with fortnightly ANC visit and later booked for an elective C/S at 34 weeks which was successfully done. All male neonates were delivered with good APGAR scores and weighing between 1300 and 1600 grams.

Fig. 1. Spontaneous Quadruplets at 3 weeks

Fig. 2. Spontaneous Quadruplets at 6 months of age

Fig.3. IVF Quadruplets at 6 months

Fig. 4. IVF Quadruplets at 1 year

The Second case was a 27-year-old G5P4+0 3 alive, a referral from a general hospital at 31 ‘weeks gestation following the diagnosis of quadruplet pregnancy at the same time, she was not offered a prophylactic cerclage as at when due from the referral hospital, so she was managed with bed rest and tocolysis. She was a rhesus negative (unsensitized) patient with positive family history of multiple gestation in her sisters. A diagnosis of Pregnancy induced hypertension (PIH) was made at 31 weeks was made earlier on admission she was booked for an elective C/S at 35 weeks, patient however went into spontaneous labour at 34 weeks 5 days which necessitated an Emergency C/S, delivering

4 live male neonates with good APGAR scores and weighing between 1400 and 1700 grams. It was confirmed pair of monochorionic diamniotic.

CLINICAL FINDINGS

The first case was a middle-aged woman with a weight of 74.9kg and the height of 1.64m. Her blood pressure throughout the pregnancy fluctuated between 100/60mmgh to 150/100mmhg while her fasting blood sugar was controlled between 3.8mmol/l and 8.2mmol/l.

The second case was a young woman, with a weight of 72.5kg and the height of 1.66m. Her blood pressure fluctuated between 160/120mmhg and 110/75mmhg.

Diagnostic Assessments

Patient 1

PCV: 39%
Viral serologies: Negative
OGTT: Fasting – 5.7mmol/l
1HPP- 11.2mmol/l
2HPP- 9.6mmol/l

Patient 2

PCV: 33%
Viral serologies: Negative

Management Summary

Management, initiated upon diagnosis, included bed rest, high-protein diet, beta-mimetic agents, dexamethasone late in the second trimester, selective cerclage and in particular the intensive ultrasonographic controls with biophysical and Doppler parameters was important for wellness and survey of the fetuses.

The mean gestational age of 34 weeks when we planned a Cesarean section and prenatal care has been shown to be effective in improving outcomes in these multiple pregnancies.

DISCUSSION

In the reported patients, pregnancy resulted from both assisted reproduction and spontaneously with positive family history, most cases of spontaneous quadruplet pregnancies have reported a positive family history and following ovulation induction. [1,2,5] However, few reported no family history as in other studies[3,6].

The spontaneous quadruplet pregnancy reached the 3rd trimester without prophylactic cervical cerclage. In 2018. Hafizi. L et al. reported a case of spontaneous quadruplet pregnancy which was terminated at week 33 with 4 healthy neonates without prophylactic cerclage. The problem of multiple gestation and its management is becoming increasingly frequent due to current methods of treating anovulatory patients.[7-9] Multiple pregnancy is considered a high-risk pregnancy as more complications are observed with the increase in number of fetuses. Higher order pregnancy needs a multidisciplinary approach for the safe transition of a pregnant women to motherhood. Not only obstetrician but early involvement of neonatologists and anesthesiologists for the assessment of such case is essential for a successful obstetrics outcome. Both patients benefited multidisciplinary management with subsequent good outcome.

CONCLUSION

Spontaneous conception of quadruplets pregnancy does occur. Successful supervision of Pregnancy and delivery of quadruplet pregnancy with good outcome for mother and infants is possible using a multidiscipline approach as demonstrated in these two cases. It is also important to note that the second patient never had a prophylactic cerclage from the referring facility which was the standard of care and because she presented late tonus she did well on bed rest and tocolysis

REFERENCES

1. Feldberg D, Laufer N, Dicker D, Goldman JA, DeCherney A. Quadruplet pregnancy in IVF. Eur J Obstet Gynecol Reprod Biol. 1986 Oct;23(1–2):101–6.
2. Shrestha D, Thapa B, Aryal S, Shrestha BK, Kalakheti B, Panthee K. Successful Management of Quadruplet Pregnancy following Spontaneous Conception. J Lumbini Med Coll. 2016 Jun 30;4(1):46.
3. Hafizi L, Rezaii Asgarieh E, Taheri N, Ghomian N. Successful Management of Spontaneous Quadruplet Pregnancy: A Case Report. J Fam Reprod Health. 2018 Sep;12(3):173–6.
4. Lama LD, Das T, Neupane A, Lama R, Pandey R, Karki U. Management of Quadruplet Pregnancy: A Case Report. JNMA J Nepal Med Assoc. 2020 Feb;58(222):122–4.
5. Carrara S, Cavaliere A, Ermito S, Dinatale A, Pappalardo EM, Militello M. Case report: successful of a spontaneous quadruplet pregnancy. J Prenat Med. 2009 Jan;3(1):10–1.
6. Rathod S, Samal SK, Singh S, Swain S. Quadruplet pregnancy following spontaneous conception: a rare case report. J Clin Diagn Res JCDR. 2015 Apr;9(4):QD01-02.
7. Rasmussen MK, Kristensen SE, Ekelund CK, Sandager P, Jørgensen FS, Hoseth E, et al. Quadruplet pregnancy outcomes with and without fetal reduction: Danish national cohort study 2008-2018 and comparison with dichorionic twins. Ultrasound Obstet Gynecol. 2023 Sep 24;uog.27497.
8. Ogunnowo T, Oluwole O, Aimakhu C, Ilesanmi A, Omigbodun A. Term quadruplet pregnancy: a case report. Niger J Surg Res [Internet]. 2010 May 27 [cited 2023 Oct 12];6(1–2). Available from: http://www.ajol.info/index.php/njsr/article/view/54796
9. Vikranth, U., Borkar, N.V., Desai, S.K., Kania, P. and Rangoonwala, N.H., 2007. A Quadruplet pregnancy. J Obstet Gynecol India, 57(5), pp.439-41.