


Rare case of quadruplets vaginal delivery in Western Uganda: missed opportunities during antenatal and referral

Leonard Ssebwami^{1,2}, Charles Balungi¹, Henry Kule¹, Caroline Atino¹, Simon Byonanuwe^{2*} 

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ABSTRACT

Background: High-order twin pregnancy remains a serious challenge for both the clinicians and the mothers during pregnancy and after delivery with increased maternal and perinatal morbidity and mortality.

Case Presentation: We present a case of a 27-year-old Gravida 2 Para 1+0 at 36 weeks and 2 days admitted in preterm labor in the second stage who successfully delivered four live babies three vertex and one breech.

Conclusion: Early diagnosis of high-order twin pregnancy and referral to an appropriate specialized health center is crucial in reducing associated maternal and perinatal morbidity and mortality.

Keywords: Case report, high-order twin pregnancy, quadruplet pregnancy, multiple pregnancy.

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Correspondence to: Simon Byonanuwe

*Department of Obstetrics and Gynaecology, Kampala International University Western Campus, Ishaka, Uganda.

Email: byonsimon@gmail.com

Full list of author information is available at the end of the article.

Background

High-order twin pregnancy remains an extremely rare form of multiple pregnancies the world over [1]. Most of it is a result of reproductive techniques and so is extremely rare when it's natural [2] and is associated with increased maternal and perinatal morbidity and mortality [3]. Once it is confirmed, it calls for an early multidisciplinary team involvement, including an obstetrician, neonatologist, anesthesiologist, and radiologist for better pregnancy outcomes [4]. The appropriate mode of delivery is still debatable with some studies suggesting that cesarean section has no added benefit on maternal-fetal outcomes in high-order pregnancies. Most recent studies however emphasize caesarean section [5]. We present an extremely rare case of quadruplets delivered vaginally at Hoima Regional Referral Hospital, a tertiary specialized hospital located in Hoima city in mid-western Uganda, about 200 km from Kampala, Uganda's capital.

Case Presentation

A 27-year-old Gravida 2 Para 1+0 at 36 weeks and 2 days of amenorrhea who was admitted as a referral in from a peripherals health center level IV due to preterm labor with triplet pregnancy as diagnosed by an earlier obstetric ultrasound scan. The mother was immediately admitted to labor suite of our hospital for assessment.

History revealed that she had attended the antenatal clinic three times from the health center IV where she received prophylactic medicines as per the Uganda protocol such as folic acid, ferrous sulphate, and prophylactic antimalarial drugs (fansidar). She had an obstetric ultrasound scan done in a private clinic during her second trimester which showed triplets. She progressed and gave birth vaginally to four live babies: three females and one male baby; first twin weighed 1.4 kg, Apgar score 8/10 at 1 minute and 10/10 at 5 minutes; second twin weighed 2.0 kg, Apgar score for this baby was also 8/10 at 1 minute and 10/10 at 5 minutes; third twin weighed 1.2 kg, Apgar score 5/10 at 1 minute and 8/10 at 5 minutes all females and all delivered by Spontaneous Vertex Delivery. The fourth twin was a male who was delivered breech and weighed 1.2 kg, Apgar scored 7/10 at 1 minute and 9/10 at 5 minutes. These babies are shown in Figure 1 just immediately after their admission to the neonatal intensive care unit. They were discharged after 11 days in good condition. Recent follow up revealed normally growing infants.

Discussion

High-order multiple pregnancies occur when more than two fetuses are present in the uterus at the same time and are specifically defined by the presence of three or more fetuses [2]. They are generally very rare with an incidence of 1 in 512,000 to 1 in 677,000 births globally [6].

The incidence of quadruplets pregnancy in particular has been reported to be 0.01%-0.07% [7]. Whereas high-order multiple pregnancies mostly occur as a result of fertility medications and are rare following natural conception [8], the current case was as a result of natural mechanisms.

High-order pregnancy remains a serious challenge for both the clinician and the mother not only during pregnancy but also after delivery and maternal mortality and morbidity are greater in quadruplet pregnancy than in singleton pregnancy [9]. The perinatal mortality and morbidity are also relatively high and are mainly due to premature delivery which is seen in more than 90% of the cases [10]. This was reflected in this case, for example, the fact that the mother experienced preterm labor with subsequent preterm delivery.

There is a paucity of published literature regarding high-order multiple pregnancy deliveries in Uganda. We could not find any published literature regarding quadruplicate delivery in this area. This case elucidates a number of remarkable gaps. Firstly, the fact that most of pregnant women are still not adhering to the standard antenatal national guidelines which recommend a minimum of four visits. This mother had attended only three visits and moreover in such cases of higher order twins where the number of visits should have been more since its high risk pregnancy. Secondly, the challenges in the diagnostics, for example, the routine obstetric ultrasonography done at 23 weeks revealed a triplet as opposed to a quadruplet at delivery. The same case points out the limitations of missed opportunity of performing an early first-trimester ultrasound scan which led to missing out the fourth fetus at a lower health facility.

There was also a missed opportunity of timely referral during antenatal care (ANC) from a lower health center four ANC clinic which is at a level of the county according to the Uganda health care structure to a high-risk pregnancy ANC clinic at a regional referral hospital for specialized care so as to adequately draw a birth

preparedness plan of appropriate delivery (cesarean section). Additionally, it can be mentioned that it is possible that health education was not adequately given to the mother as she was not aware of the associated complications of such high order pregnancy and neither of the mode of delivery.

Conclusion

Early diagnosis of high-order twin pregnancy and referral to an appropriate specialized health center is crucial in reducing associated maternal and perinatal morbidity and mortality.

What is new?

High-order twin pregnancy more so of more than three babies arising from natural mechanisms is extremely rare not only here in Uganda but the world over. In this area, it is the first reported case of its kind. As opposed to many prior reported cases, delivery occurred just close to term and vaginally.

List of Abbreviations

ANC	Antenatal care
N/A	Not applicable
SVD	Spontaneous vertex delivery

Conflict of interest

The authors declare that there is no conflict of interests regarding the publication of this case report.

Funding

No funding was received towards the publication of this case report.

Consent for publication

A written informed consent to publish this case was obtained from both parents of the babies.

Ethical approval

Ethical approval is not required at our institution for publishing an anonymous case report.

Author details

Leonard Ssebwami^{1,2}, Charles Balungi¹, Henry Kule¹, Caroline Atino¹, Simon Byonanuwe²

1. Department of Obstetrics and Gynecology, Hoima Regional Referral Hospital, Hoima, Uganda
2. Department of Obstetrics and Gynaecology, Kampala International University Western Campus, Ishaka, Uganda

References

1. Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, et al. *Williams obstetrics*. 24th ed. New York, NY: McGraw-Hill; 2014. Vol. XXXIII, 683–5 pp.
2. Salta S, Pargianas M, Pargianas M, Fiorentzis S. Quadruplets and Quintuplets. *Agios Nikolaos Crete, Greece: IntechOpen*; 2018. 159–85 pp.
3. Tong Z, Yi-Cheng W, Qiang Y. Vaginal delivery of triplets after emergency transvaginal cerclage. *Medicine (Baltimore)*. 2024;103(11):1–6. <https://doi.org/10.1097/MD.00000000000037262>



Figure 1. Quadruplicate twins following vaginal delivery.

4. Dutta DC. DC Dutta’s Textbook of Obstetrics including Perinatology and Contraception. 8th ed. New Delhi, India: Jaypee Brothers Medical Publishers (P) Ltd; 2015. <https://doi.org/10.5005/jp/books/12540>
5. Cahill DJ, Jenkins JM, Soothill PW, Whitelaw A, Wardle PG. Quadruplet pregnancy following transfer of two embryos: case report. *Hum Reprod*. 2003;18(2):441–3. <https://doi.org/10.1093/humrep/deg089>
6. Setu R, Sunil KS, Sujata S, Sujata S. Quadruplet pregnancy following spontaneous conception: a rare case report. *J Clin Diagnostic Res*. 2015;9(4):3–4.
7. Hafizi L, Asgarieh ER, Taheri N, Ghomian N. Successful management of spontaneous quadruplet pregnancy: a case report. *J Fam Reprod Heal*. 2018;12(3):173–6.
8. Shah IP, Dadu ZH, Shah K. Successful spontaneous fraternal quadruplet delivery rare case report. *Indian J Obstet Gynecol Res*. 2020;7(3):433–5. <https://doi.org/10.18231/j.ijogr.2020.091>
9. Moussa B, Issa O, Barnabe YR, Hassane T, Ibrahim TA, Zakari N, et al. Quintuplet pregnancy: a rare case after clomiphene citrate therapy and review of literature. *Open J Obstet Gynecol*. 2019;9:1365–71. <https://doi.org/10.4236/ojog.2019.910132>
10. Socolov R, Akad M, Maricica P, Popovici D, Covali R, Akad F, et al. The rare case of a COVID-19 pregnant patient with quadruplets and postpartum severe Pneumonia. Case Report and Review of the Literature. *Medicina (B Aires)*. 2021;57(1186):1–7. <https://doi.org/10.3390/medicina57111186>

Summary of the case

1	Patient (gender, age)	Newly born four live babies; three females and one male born to a 27 year old Gravida 2 Para 1+0 at 36 weeks and 2 days of amenorrhea
2	Final diagnosis	Quadruplets
3	Symptoms	First twin 1.4 kg, Apgar score (A/S) 8/10 at 1 minute and 10/10 at 5 minutes; second twin 2.0 kg, A/S 8/10 at 1 minute and 10/10 at 5 minutes; third twin 1.2 kg, A/S 5/10 at 1 minute and 8/10 at 5 minutes, fourth twin 1.2 kg, A/S 7/10 at 1 minute and 9/10 at 5 minutes
4	Medications	Oxygen therapy, Tetracycline eye ointment, Vitamin k, Ampicillin
5	Clinical procedure	N/A
6	Specialty	Obstetrics and gynecology