

Incidence and Mode of Delivery of Twin Pregnancies in Uyo, Nigeria

Aniekan M Abasiattai, Aniefiok J Umoyoho, Ntiense M Utuk, Dolapo G Shittu

SUMMARY

Background: Twin pregnancy continues to be a focus of interest the world over due to its increasing incidence and also the high maternal and perinatal mortality and morbidity associated with it.

Objective: To determine the incidence and mode of delivery of twin pregnancies at the University of Uyo Teaching Hospital, Uyo.

Methodology: A 5-year retrospective review of twin deliveries at the University of Uyo Teaching Hospital.

Results: There were 6,344 deliveries out of which 164 were twin deliveries resulting in an incidence of 2.6%. The modal age group of the patients was 20-29 years (66.5%), majority (71.3%) of the patients were multiparous, 79.3% booked and had regular antenatal care in the hospital while 49.4% of the patients delivered at term. Eighty-four patients (51.2%) were delivered by caesarean section and malpresentation of the first twin (18.2%) and hypertensive disorders of pregnancy (10.4%) were the most common indications. The perinatal mortality rate was 207/1000 and there was one maternal death which was from eclampsia.

Conclusion: The incidence of twin pregnancy and its attendant perinatal mortality is high in our center. In addition, caesarean section is the most common mode of delivery with malpresentation of the first twin and hypertensive disorders of pregnancy as the most common indications. We advocate widespread public enlightenment on the increased risk associated with twin pregnancy. Community leaders should ensure that women with twin pregnancy should book early and obtain antenatal care in specialized units.

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INTRODUCTION

Twin pregnancy continues to be a focus of interest the world over. This is due to increased maternal and perinatal morbidity and mortality associated with it and also because of

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From: Department of Obstetrics/Gynaecology, University of Uyo Teaching Hospital, Uyo, Nigeria

Correspondence: Dr Aniekan M Abasiattai, Department of Obstetrics/Gynaecology, University of Uyo Teaching Hospital, Uyo-Akwa Ibom State, Nigeria. Email-animan74@yahoo.com

its increasing incidence due to ovulation induction and assisted reproductive techniques (ART) ¹. The perinatal mortality rate (PNMR) associated with twin pregnancy is four times that of singleton pregnancy and is related to the higher incidences of preterm delivery, foetal growth restriction, ante-partum haemorrhage (APH), maternal pre-eclampsia and foetal anomalies ². In addition, all maternal complications occur much more commonly in twin pregnancy and this is probably worse in sub-Saharan Africa where there may be lack of facilities to manage twin pregnancy and delivery and where poverty, ignorance, and harmful cultural beliefs and practices are still rife ³. Available evidence also indicates that twin pregnancies are also associated with a number of financial, emotional, personal and social costs for their families and twins themselves⁴.

While the incidence of monozygotic (MZ) twins is fairly constant at approximately 3.5/1000 deliveries, the incidence of dizygotic (DZ) twinning is influenced by maternal age, parity, use of ovulation induction agents, assisted reproductive techniques and race ⁵. People of African descent are reported to have the highest incidence; the far Eastern races the lowest and the Caucasians of Northern Europe are intermediate ⁶. In Nigeria where the incidence of twinning is reported to be the highest in the world, the rates vary among the various ethnic groups and even among urban and rural populations ⁶.

Akwa Ibom state with Uyo as the state capital is located in the south-Eastern coast of Nigeria within latitude 4°35' and 5°53' and has a population of 3.9 million people. The major ethnic groups are Ibibio, Annang and Oron and the main occupations of the people are farming, petty trading, fishing, craft making and pottery. Due the paucity of information on twin pregnancy in the state, this study which was conducted at the University of Uyo Teaching Hospital (UUTH), aims to establish the incidence and determine the mode of delivery of twin pregnancies in the center.

MATERIALS AND METHODS

This retrospective study was conducted at the Maternity unit of UUTH between 1st January 2004 and 31st December 2008. The registration numbers of all women with twin pregnancy who delivered in the center during the study period were obtained from the delivery register. With the numbers, their case notes were retrieved for in-depth study. Information abstracted included their demographic characteristics, booking status, gestational age at delivery, mode of delivery, indications for caesarean section (CS) and outcome. The data were analysed using simple proportions, rates and tables. Information on the

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placenta in the records was insufficient to permit observation on how many of them were identical.

RESULTS

There were a total of 6,344 deliveries during the study period out of which 164 were twin births resulting in an incidence of 2.6% or 1 in 39 deliveries. Their ages ranged from 18-43 years with modal age group of 20-29 years (66.5%). Majority (71.3%) were multiparous, while 79.3% of the patients booked and had regular antenatal care (ANC) in the hospital. Fifty eight (35.4%) patients had preterm delivery, while 49.4% delivered at term (Table I).

Table II shows the mode of delivery. Eighty four patients (51.2%) were delivered by caesarean section (CS) out of which 52 (31.7%) were performed as emergencies while 32 (19.2%) were elective caesarean deliveries. Ten patients (6.1%) had assisted breech delivery while 3.7% of them were delivered by vacuum extraction. The most common indication for caesarean delivery was malpresentation of the first twin (18.2%) followed by hypertensive disorders of pregnancy (10.4%) while the least were postdate pregnancy (0.6%), intrauterine foetal death (IUFD) of the first twin (0.6%), fetopelvic disproportion in labour (0.6%) and lower segment uterine fibroids (0.6%) respectively – table III.

One hundred and fifty one babies were male (151), while 143 were female. In 7 cases, the sex of the babies were not recorded. Eighteen babies (11.1%) were asphyxiated at birth. Twenty two (20.1%) were stillborn out of which 11 (6.7%) were already macerated. There was one early neonatal death resulting in a PNMR of 207/1000. There was one maternal death which was from eclampsia.

Table 1: Demographic characteristics of the patients, booking status and gestational age at delivery. N=164

Age (years)	No (%)
<20	3 (1.8)
20-29	109 (66.5)
30-39	42 (25.6)
≥40	2 (1.2)
Not recorded	5 (3.0)
Unknown	3 (1.8)
Parity	
P0	30 (18.3)
P1-4	117 (71.3)
≥P5	17 (10.4)
Booking status	
Booked	136 (82.9)
Unbooked	27 (16.5)
Not recorded	1 (0.6)
Gestational age at delivery (weeks)	
< 37	58 (35.4)
37-40	77 (47.0)
41-42	4 (2.4)
>42	1 (0.6)
Not recorded	20 (12.2)
Unknown	4 (2.4)

Table 2: Mode of delivery N=164

Mode of delivery	No (%)
Caesarean section	84 (51.2)
Spontaneous vaginal delivery	66 (40.2)
Assisted breech delivery	10 (6.1)
Vacuum extraction	6 (3.7)
Forceps delivery	3 (1.8)
Breech extraction	1 (0.6)

Table 3: Indications for caesarean section

Indication	No (%)
Malpresentation of the first twin	30 (18.2)
Pre-eclampsia/eclampsia	17 (10.4)
Two previous CS	12 (7.3)
Antepartum haemorrhage	8 (4.9)
Retained second twin	6 (3.7)
Foetal distress	3 (1.8)
Previous perinatal death	2 (1.2)
Cord prolapse	2 (1.2)
Postdatism	1 (0.6)
IUFD of first twin	1 (0.6)
Fetopelvic disproportion	1 (0.6)
Lower segment fibroid	1 (0.6)

DISCUSSION

This study reveals the incidence and common modes of delivery of twins in our center. The incidence of 1 in 39 deliveries in our center is lower than those reported from centers in the South-western^{7,8} and South-eastern⁵ parts of Nigeria but higher than those reported from centers in the North-central, North-east and North-western parts of the country^{2,5,9}. This suggests that the incidence of twinning is higher in the Southern part of the country when compared to the North. The incidence of twin delivery in our center is also much higher than those from countries in the United Kingdom¹ and North-America⁴, despite the reported increase in twinning in these countries due to ovulation induction and ART. The twinning rate in Nigeria appears to be influenced by ethnicity; the Yorubas of south western Nigeria having the highest twinning rate in the world³.

Twin pregnancies are documented to occur more commonly among older women due to rising follicle stimulating hormone levels and also grandmultips¹. In our study the converse was the case as most of the patients were multiparous and between the ages of 20-29 years. However, our study is a preliminary review which was hospital based and thus may not entirely reflect what may obtain in the community in general.

Generally, the caesarean section rates for twins are documented to be 2-3 times higher than for singleton pregnancy¹. This is reflected in this study by the high caesarean section rate (51.9%) which is higher than the 24.5% for singleton pregnancies in the center and this specifies the high risk nature of twin pregnancy. The common indications for caesarean section were malpresentation of the first twin and pre-eclampsia/eclampsia. In order to prevent foetal interlocking and its very high attendant foetal mortality, most obstetricians advocate delivery by caesarean section when the leading twin is breech and the

second cephalic^{10,11}. Pre-eclampsia occurs 3 to 5 times more commonly in multiple than singleton pregnancies with no influence by zygosity⁶. There is also a tendency for the condition to occur earlier in pregnancy and take a more fulminating course that is likely to lead to eclampsia⁶.

A significant percentage of the patients (35.4%) had preterm delivery which is reportedly the most important complication of multiple pregnancies and the single greatest contributor to the high PNMR in twin pregnancy¹. The average gestational age at delivery for twins is 37 weeks and about half of twins deliver preterm. Prematurity is associated with an increased incidence of respiratory distress syndrome (RDS), intracranial haemorrhage, cerebral palsy, blindness, low birth weight (LBW), and neonatal morbidity and mortality¹². RDS accounts for 50% of all neonatal deaths associated with premature birth¹². Hence, various measures have been used in an attempt to reduce the incidence of prematurity including bed rest, oral tocolytics, and cervical cerclage all of which unfortunately have failed to significantly improve gestational age at delivery⁶.

The PNMR of 207/1000 in this study was lower than that reported from Afikpo⁵, but higher than that reported from Maiduguri⁹, Jos² and Calabar¹³. It is also much higher than that the 47/1000 reported from the developed world¹. Due to the retrospective nature of the study, the causes of perinatal deaths could not be ascertained as these were not recorded in the patient's case notes. In addition, due to the culture of the people, post-mortem examinations were not performed on the babies that died. However, it is well documented that the PNMR is 4-6 times higher in twin pregnancies than in singleton and is twice as high in monozygotic than in dizygotic twin pregnancies¹⁰. The PNMR in twins is probably much higher in our environment where fetal hypoxia, obstructed labour, ruptured uterus, eclampsia and birth trauma are not uncommon.

In conclusion, the incidence of twin pregnancy in our environment is high and the attendant perinatal mortality is also high. In addition, CS is the most common mode of delivery with malpresentation of the first twin and pre-eclampsia/eclampsia as the common indications. We advocate widespread public enlightenment on the increased risks associated with twin

pregnancy and patients with twin pregnancy should be encouraged to book early and obtain ANC in specialized units.

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