

Twins Birth in Kano, Northern Nigeria

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Abstract:-

Objectives: To determine the incidence of twin pregnancy at Aminu Kano Teaching Hospital and associated maternal and perinatal morbidity.

Materials and Methods: This is a descriptive study of patients with twin pregnancy, who delivered at Aminu Kano Teaching Hospital (AKTH) from 1st January, 2005 to 31st December, 2009. Case notes of the patients were retrieved from the records department and the data analyzed using Epi Info and Minitab electronic statistical software

Results: Three hundred and forty nine pregnant women were admitted and delivered of twins during the period under review. One ninety four case notes were available from the record officers giving a retrieval rate of 55.6%. The mean age was 27.7±4.9 and the mean parity was 2.3±2.21. 69.6% of the twins' mothers were booked. The rate of twin delivery was 22.9/1,000. Pregnancy induced hypertension (12.9%), pre-labour rupture of membrane (7.7%) and footling breech (4.1%) were the leading complications.

The mean gestational age at delivery was 37.1±2.4. 57 patients (29.4%) had caesarean section due to various intrapartum complications. Five babies (1.3%) died in the early neonatal period, 25 (6.5%) were stillborn, 23 (5.9%) were asphyxiated and 195 (50.3%) were low birth weight.

There was no statistically significant difference between the mean birth weight and Apgar scores of first and second twins.

Conclusion: The incidence of twin pregnancy increases with advanced parity and maternal age. The maternal and perinatal morbidity were found to be significantly high in twin pregnancy in this study.

Keywords: Twins, Perinatal outcome, Kano, Nigeria

I. INTRODUCTION

The incidence of multiple births is on the increase worldwide; especially in the developed countries mainly as a result of the increasing use of assisted reproduction techniques with the resultant increase in the incidence of higher order multiple births[1].

The rate of monozygotic twins is remarkably constant and is not influenced by heredity, mothers' age or other factors². It occurs in approximately 2.3-4 of 1000 pregnancies in all races [2].

The incidence of dizygotic twins varies and is remarkably influenced by race, tribe, heredity, increasing maternal age and parity [3,4]. However, both are affected by the practice of assisted reproduction and the use of ovulation stimulation drugs [5]. Twin deliveries are least common in Asians, of intermediate occurrence in the white and most common in the blacks [5].

A monochorionic twin pregnancy is one in which both babies are dependent on a single shared placenta. About one third of twin pregnancies in the United Kingdom have monochorionic placentas [5]². There has been a recent increase in all types of multiple pregnancies with the increase use of assisted reproductive techniques.

Nigeria has long been recognized for a high incidence of multiple pregnancies [6,7,8] The Yoruba people of Nigeria possess a twinning rate more than four-fold that of Caucasian population, and the highest rate in the world [9].

The local incidence of twins varies from 14.4 per 1000 births in Maiduguri [3], 21.1 per 1000 births in Kano [4], to 19.6 per 1000 in Enugu [10] and 53.8 per 1000 births in Ibadan [11], which indeed is the highest. Twin pregnancy particularly monochorionic is a high risk pregnancy due to increased risks of preterm birth, fetal growth restriction, pre eclampsia maternal pregnancy symptoms, antepartum haemorrhage, post partum haemorrhage. And perinatal death [12,13]. These complications are particularly seen in low resource countries like Nigeria due to inadequate obstetrics and neonatal facilities. [4,10,11],

II. MATERIALS AND METHOD

This is a descriptive study of patients with twin pregnancy that delivered at Aminu Kano Teaching hospital, Nigeria from 1st January, 2005 to 31st December 2009. The case notes were retrieved from the records department and the data were analyzed using Epi Info and MiniTab electronic statistical software. The following information was extracted: age, parity, booking status, educational status, antenatal and intrapartum complications. Others were gestational age at delivery, mode of delivery, indications for caesarean section, birth weight, Apgar scores, maternal and fetal outcome. Data was not available to segregate MC from DC as we do not routinely offer early pregnancy scan to these women.

The data analyzed were presented using simple tables.

III. RESULTS

The total number of deliveries during the study period was 15,247 out of which 349 were twins and 11 were higher order multiple pregnancies.

One ninety four cases were retrieved giving a retrieval rate of 55.59%. The rate of twin deliveries during the period under review was 22.89/1000 deliveries.

Majority of the patients were booked (69.6%) either with our hospital or elsewhere. Eight patients (4.1%) were referred, 40 patients (20.6%) were unbooked, three patients were defaulters (1.5%) and eight patients (4.1%) did not mention their booking status. The mean gestational age at delivery was 37.1 ± 2.4 SD. One patient (0.5%) delivered at 27 weeks of gestation, 59 patients (30.7%) delivered preterm while 132 patients (68.7%) delivered at term. The gestational age at delivery was unknown in 2 cases.

Twenty-six (13.4%) second twins presented in breech and had either assisted breech delivery (10.3%), breech extraction (2.6%) or internal podalic version (IPV) (0.5%). Fifty seven patients had caesarean section and two of them were due to retained second twins.

The mean birth weight of twin I was 2.2 (0.8SD) and that of twin II was 2.3 (0.9SD). There was no significant difference between the mean birth weight ($t=0.22$, Df = 98, $P=0.82$).

Sixteen (8.2%) twin I had birth weight below 1.5 Kg, 21 (10.9%) within 1.50-1.99 Kg, 63 (32.4%) within 2.0-2.5 Kg and 94 (48.5%) had birth weight of at least 2.5 Kg. For the twin II, 15 (7.7%) were below 1.5 Kg, 27 (13.9%) were within 1.5-1.99 Kg, 53 (27.4%) were within 2.0-2.49 Kg and 99 (51.0%) were at least 2.5 Kg ($X^2=1.77$, Df=3, $P=0.62$).

Up to 186 (96.4%) first twins were delivered alive, one (0.5%) died within the first week of delivery (early neonatal death) and six (3.1%) were stillborn. For the second twins, 171 (88.1%) were delivered alive, four (2.1%) had early neonatal death and 19 (9.8%) were stillborn. The outcome of 1 twin I was not recorded in the case note.

TABLE I

Age And Parity Distribution Of The Mothers

	Frequency	Percentage (%)
Age		
<20	3	1.5
20-34	178	91.8
>=35	13	6.7
Parity		
0	48	24.7
1-4	116	59.8
>=5	30	15.5

TABLE I: shows the age and parity distribution of mothers with twin pregnancy. The age ranges from 19 to 45 years with a mean of 27.7 ± 4.9 SD. Majority of the patients (91.75%) were between the ages of 20-34 years. The parity ranges from 0 to 6. The mean parity was 2.3 ± 2.2 SD. Majority of the patients (59.3%) were para 1-4.

TABLE II

Antenatal and Intrapartum Complications

Complications	Frequency	Percentage (%) of total
Antenatal		
PROM	15	7.7
Preterm contractions	5	2.6
PIH	25	12.9
Malaria	6	3.1

Anaemia	3	1.5
UTI	2	1.0
APH	3	1.5
Postdate	6	3.1
Hyperemesis	4	2.1
Miscellaneous	5	2.6
Nil	120	61.9
Intrapartum		
Poor progress	7	3.1
Primary PPH	5	2.6
Fetal distress	4	2.1
PIH	23	11.9
Cord prolapsed	6	3.1
Retained 2 nd twin	2	1.0
Retained placenta	1	0.5
Footling breech	8	4.1
Nil	138	71.1

Seventy four patients (38.1%) had antenatal complications while 56 patients (28.9%) had intrapartum complications

Note:

PROM: Prelabour Rupture of Membrane

PIH: Pregnancy Induced Hypertension

APH: Antepartum Haemorrhage

UTI: Urinary Tract Infection

PPH: Postpartum Haemorrhage

TABLE III

Indications for Caesarean Section

Indications	Frequency	Percentage (%)
Malpresentation of 1 st twin	17	29.8
Poor progress	6	10.5
Fetal distress	1	1.7
PIH	15	26.3
APH	2	3.5
2 previous c/s	2	3.5
Cord prolapsed	6	10.5
Retained 2 nd twin	2	3.5
Footling breech	6	10.5
Total	57	100.0

TABLE IV:

Apgar Scores

Apgar scores	Twin I	Twin II	Test of significance
Mean	8.07(2.0SD)	7.6(2.7SD)	T=0 Df=17 P=1.0
<4	9(4.6%)	21(10.8%)	
4-6	8(4.2%)	10(5.2%)	
7-10	177(91.2%)	163(84.0%)	X ² = 5.6 Df= 2 P= 0.06

IV. DISCUSSION

In the developed world the incidence multiple births has increased dramatically over the last few decades from 1/1000 to about 60-70/1000 deliveries with a 40% increase in monozygotic twinning rates. The rate is attributable to increase in application of ART.[1]

The twinning rate of 22.89/1,000 found in this review was similar to that found in similar studies from this centre [4] and other neighbouring states in the northern part of the country [14] It was however, less than the reported in southern [15], eastern [12], and western parts of the country [11].though much higher than reported from England in Northern Hampshire hospitals of 3.27%[16].

The incidence of twin pregnancy in this study increased with parity and maternal age up to 34 years of age. The incidence of twins is 11:1000 deliveries. Monozygotic twinning occurs in 3.5:1000 pregnancies, whilst dizygotic twinning rates vary widely [16], with a 20-40 increase in women undergoing ovulation induction. Studies amongst Caucasians [17] and in African population [18] similarly found the incidence of twinning to increase with maternal age; however, the increases were found to reach peak in the age group of 35 to 39 years and 30 to 34 years respectively. The peak was also seen in this review up to 91.75% within the age group of 20-30 years. In twins about 35% are identified as monozygotic and 75% are fraternal or dizygotic [16] In this study most of the increase is attributed to the high incidence of dizygotic twins, because they are the ones that are mainly affected by variation in maternal age and parity [19] and, in addition, the monozygotic twinning rate is fairly stable worldwide [5,17].

Majority of the patients (69.60%) were either booked in the hospital or elsewhere, and therefore experience less antenatal complication. This is comparable and better than the figure reported by Kuti in Ilesha, Nigeria [2].

Multiple pregnancy is associated with greater risk for both mother and baby compared to singleton pregnancy [5] . Intrapartum complications (28.87%) were found to be significantly high, in this study; confirming that multiple pregnancies still remain a high risk obstetric situation despite improved perinatal care. This agrees by report from authors in advanced countries with more sophisticated perinatal care facilities [20]. The mean gestational age at delivery was 37.2 weeks. This was less than the figure reported by other studies [22,23], but however, within the range of 36-37 weeks for twins reported in other studies [5].

The optimal mode of delivery for multiple pregnancies remains controversial. The most frequent mode of delivery for triplets and higher order is by [16].The existence of additional complication, malposition of the first twin, onset of premature labour, pregnancy induced hypertension at 28-34weeks is an indication for caesarean section [23] . In this study 29.4% of the patient had emergency caesarean section due to complications. Malpresentation of the first twin (29.8%), followed by pregnancy induced hypertension (26.3%) were the leading cause of this operation. This is similar to studies by Laros *et al* [21] who also reported 29% of their twins were delivered by caesarean section. Seventy-one percent (71.6%) of either the first or the second twins presented cephalic and had spontaneous vertex delivery, confirming that still vaginal is safe [21], while 3.62% of the patients had instrumental deliveries using either vacuum or forceps as was reported in other studies [19].

The mean birth weight of twin I (2.2 ± 0.9) was relatively less than that of twin II (2.3 ± 0.9). This was similar to the findings of Laros *et-al* but contrary to the findings of Swende at Makurdi, Nigeria²⁰ complications like PIH (26.3%), APH (3.5%) amongst our patients, the genetic make-up may explained the relative low birth weight of the babies when compared with others.

There was no statistically significant difference between the mean birth weights of the first and second twins. This was similar to the findings in other studies[21,22,23]

The mean Apgar scores of twin I and twin II were 8.07 ± 2.01 and 7.65 ± 2.77 respectively. This shows that the first twins had better Apgar scores than the seconds. However, there was no statistically significant difference in Apgar scores between the first and the second twins..

Out of the 387, 357 (92.25%) were alive, 5 (1.29%) had early neonatal death, 25 (6.46%) were stillborn and, 23 (5.93%) were asphyxiated. Also, One hundred and ninety-five (50.26%) babies were of low birth weight. These associated complications were reported in many other studies [1, 6, 19] and is comparable to Laros *et-al*[21]

V. CONCLUSION

The incidence of twin pregnancy increases with advanced parity and maternal age. The maternal and perinatal morbidity were found to be significantly high in twin pregnancy in this study The limitations of this study include the fact that it was retrospective.

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