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A Review of Twin Gestation in a Tertiary Health Institution in North Central Nigeria

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Abstract: To determine the prevalence, mode of delivery and complications of twin pregnancy in Ilorin. This is a retrospective study of 291 cases of twin gestations managed at the University of Ilorin Teaching Hospital, Ilorin over a 5 years period. During this period, there were 15,005 deliveries and 488 cases of twin gestation, giving an incidence of 1 in 30 deliveries (3.3%). Twin pregnancies were commoner in older and multiparous women. Majority of the twins were delivered at term (65.8%) with an overall average birth weight of 2.5±0.5 kg, with the second twin having a higher birth weight than the first. Cephalic presentation in the first twin was observed in 59.5% of cases. Mode of delivery was vaginal in 64.3%, while 32.6% delivered by caesarean section. The most common indication for caesarean section was breech presentation in the first twin. Preterm labour was the commonest maternal complication, while prematurity was leading cause of perinatal mortality. The prevalence of twin pregnancy in Ilorin is lower than that reported among Yoruba people of Southwest Nigeria, but still higher than that reported from the Northern part of Nigeria. Prevention of preterm labour will improve perinatal outcome in twin pregnancies.

Key words: Twin pregnancy, prevalence, complications, Ilorin, Nigeria

INTRODUCTION

Twin gestation has always fascinated mankind throughout history; it has been known to be at higher risk than those of singleton (Newman, 2003). Twins constitute a significant number of preterm, low birth weight and growth restricted infants. They are also at higher risk of long-term mental and physical handicap and tend to have significantly higher health care costs (Chikara and Berkowitz, 2002). Women with twin gestation are 6 times more likely to be hospitalised for antepartum complications, most frequently preterm labour, preterm premature rupture of membranes and pre-eclampsia (Chikara and Berkowitz, 2002).

Twinning is of major obstetric importance in Nigeria because the highest rate in the world occurs in this country (Fakeye, 1986a). Incidences of 54 in 1000 births, 9.8-13.6 in 1000 births and 4 in 1000 births have been reported in Nigeria, UK and Japan, respectively (Fisk *et al*., 1999). The incidence of twinning has been increasing in the past 20 years (Fisk *et al*., 1999; Bush *et al*., 2003) in the developed countries due to availability and increased use of ovulation inducing drugs and assisted reproductive technology (Bush *et al*., 2003).

The complications of twin gestation may occur any time during pregnancy, delivery or in the post natal period (Reese, 1992) Early in pregnancy, spontaneous abortion and congenital malformation are commoner with twin gestation (Dickey *et al*., 2002). In the second half of pregnancy, anaemia, pre-eclampsia/ eclampsia, preterm labour, polyhydramnios, antepartum haemorrhage, fetal malpresentation and perinatal death are all known to occur at a higher frequency in twin gestation (Newman, 2003; Chikara and Berkowitz, 2002).

In view of the high incidence of twinning in this environment and the associated maternal and fetal risks, it is important to constantly study this important, high risk pregnancy. Hence, this study is aimed at determining the prevalence, pattern and outcome of twin pregnancies in University of Ilorin Teaching Hospital, Ilorin.

MATERIALS AND METHODS

This is a retrospective study of 291 cases of twin gestations managed at University of Ilorin Teaching Hospital over a 5 years period from 1st January 2002 to 31st December 2006. The labour ward, emergency ward and theatre records were used checked and the hospital numbers of these patients were collected. The case notes were retrieved from the medical records library and analysed for maternal age and parity, gestational age at birth, birth weights, fetal presentations, mode of delivery, fetal outcome and other associated complications. The data obtained are presented in frequency tables and percentages.

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RESULTS

The total deliveries for the 5 years period were 15,005 and twin gestation were 488, giving an incidence of 1 in 30 deliveries or (3.3%). However, only 291 cases notes were available for evaluation and analysis.

The mean age was 31.5 years (±5.12). Majority of the women (74.2%) were in the age group 20-34 years, a quarter of them were above 35 years of age. About 60% of the women were multiparous, with 20.8% being grandmultiparous (parity of 5 and above) (Table 1).

The most common fetal presentation was cephalic-cephalic, which constituted 37.4%, followed by cephalic-breech (22.1%), others were breech-cephalic (21.4%) and breech-breech presentation was (12.1%). Other abnormal presentations constituted the remaining 7.1% (Table 2). One hundred and eighty-eight (64.3%) were vaginal deliveries, 94 (32.6%) were caesarean section, while 9 cases (3.1%) had instrumental vaginal deliveries performed (8 vacuum and one forceps delivery) (Table 2).

Eighty-nine percent of cases had birth interval between first and second twin of less than 30 min, while the remaining 32 (11%) had interval of greater than 30 min (Table 2). There were 10 cases of retained second twin referred from elsewhere.

About 34.9% of the women had preterm labour, 8.6% had pre-eclampsia/eclampsia, anaemia in pregnancy occurred in 2.4%, 1.7% had postpartum haemorrhage and 0.7% had antepartum haemorrhage (Table 3). Majority (66.7%) were delivered at term with 8.4% beyond 40 weeks gestation. The remaining 33.3% were delivered preterm (<37 completed weeks).

The overall mean birth weight of the babies in this study was 2.5kg ±0.53; for the first twins had an average weight of 2.48 kg ±0.52 and the second 2.52 kg ±0.54 (Table 4).

The leading twin presenting by the breech was the commonest (24.7%) indication for caesarean section. Five cases (5.1%) had caesarean section for footling breech, 9.2% for transverse lie and 6.1% were for cord prolapse. Other indications were pre-eclampsia/eclampsia, retained second twin, failed induction poor labour progress, fetal distress, previous scar with twin gestation and antepartum haemorrhage (Table 5).

There were 31 perinatal deaths in this study among 291 twin pairs. Eight (25.8%) and 13 (41.9%) occurred in the first and second twin, respectively and 10 (32.3%) occurred in both twins. Majority of the deaths (67.7%) occurred in preterm fetuses, while 10 (32.3%) were term infants.

Table 1: Age and parity distribution of mothers

Variables	Freq. (%)
Age group	**n = 291**
15-19	2 (0.7)
20-24	21 (7.2)
25-29	105 (36.1)
30-34	90 (30.9)
35-39	60 (20.6)
40-44	13 (4.7)
Parity	**n = 291**
1-2	128 (43.9)
3-4	104 (35.7)
5-6	48 (16.5)
>7	11 (3.7)

Table 2: Distribution of twins by fetal presentation, mode of delivery and birth interval at birth

Variables	Freq. (%)	X^2 and p-value
Fetal presentation*	**n = 281**	
Cephalic-cephalic	105 (36.1)	
Cephalic-breech	62 (21.3)	$X^2 = 94.15$
Breech-cephalic	60 (20.6)	p = 0.0000
Breech-breech	34 (11.7)	
Others	20 (6.9)	
Mode of delivery	**n = 291**	
Vaginal	187 (64.3)	$X^2 = 245.07$
Caesarean section	95 (32.6)	p = 0.0000
Instrumental vaginal delivery	9 (3.1)	
Birth interval	**n = 291**	
<30 min	259 (89)	$X^2 = 354.15$
>30 min	32 (11)	p = 0.0000

*10-Retained second twin referred from outside

Table 3: Distribution of twins by antepartum and post partum complications

Complications	Freq. (%) n = 291
Preterm labour	104 (34.9)
Preeclampsia/eclampsia	25 (8.6)
Anaemia	7 (2.4) $X^2 = 280$
Post partum haemorrhage	5 (1.7) p = 0.0000
Ante partum haemorrhage	2 (0.7)

Table 4: Summary of birth weight of all first and second twin

Variables	Mean weight±SD
Mean weight of all first twin	2.48±0.52
Mean weight of all second twin	2.52±0.54
Overall mean weight	2.50±0.53

F-statistics = 0.83, p = 0.3631

Table 5: Indications for caesarean section

Indication	Freq. (%)
Leading twin breech	23 (24.7)
Eclampsia/preeclampsia	12 (12.9)
Transverse lie	9 (9.7)
Cord prolapsed	6 (6.5)
Prolonged labour	6 (6.5)
Footling breech	5 (5.3)
Previous scar with twin gestation	5 (5.3)
Retained second twin	4 (4.3)
Failed induction	2 (2.2)
Fetal distress	2 ()2.2
Ante partum haemorrhage	2 (2.2)
Others	17 (18.3)

DISCUSSION

The prevalence of 1 in 30 deliveries found in this study is in keeping with the high incidence reported

among the Yoruba tribe in Nigeria which is the dominant ethnic group in Ilorin (Odum, 1995). The prevalence of twinning agreed with an incidence of 1 in 33.8 deliveries from a descriptive study in the Niger delta (Igberase *et al*., 2008). Even though, it is much higher than that from the northern part of the country (Aisien *et al*., 2000; Nwodo *et al*., 2002), it is lower than the prevalence reported from the Yorubas of the southwest Nigeria (Ilesanmi *et al*., 2000; Kuti *et al*., 2006). This finding of mid-value between the southwest and the north is in line with the fact that Ilorin is a cosmopolitan city and the gateway from the southwest to the northern part of Nigeria. Twin gestation becomes more common with advancing maternal age (Aisien *et al*., 2000; Ilesanmi *et al*., 2000; Igberase *et al*., 2008). This was reasonably reflected in this study as a quarter of the women were 35 years or more and only 2 teenagers had twin deliveries. There has been conflicting report on the role of increasing parity and the incidence of twinning. Aisien *et al*. (2000) and Bush *et al*. (2003) believe parity does not influence the incidence of dizygotic twinning, while others (Azubuike, 1982) have reported otherwise. This study however, supported the fact that majority of twin gestation occur in multiparous women, which compares favourably with findings by Aisien *et al*. (2000) in Jos, North central Nigeria and other researchers in the Niger Delta (Igberase *et al*., 2008).

Almost, half of the mothers (48%) developed complications either antenatally or postnatally. This was similar to finding in Ile-Ife, Nigeria (Kuti *et al*., 2006). Preterm labour was the most common complication with statistical significance. Others were pre-eclampsia/ eclampsia, anaemia and obstetric haemorrhage. Also, multiple pregnancies have been shown to be the leading cause of preterm deliveries in this centre (Chike-Obi, 1993). Preterm labour often occurs spontaneously in twin pregnancies. Although, no maternal mortality was recorded in this study, surveillance and early treatment of maternal anaemia, hypertension and other medical diseases will improve pregnancy outcomes. There is also, a need to search for, identify and promptly treat other causes of preterm labour.

The mean birth weights for the first and second twin were 2.48 kg ±0.52 and 2.52 ±0.54 kg, respectively, while the overall mean birth weight was 2.5 ±0.53 kg. This was similar to the earlier finding by Fakeye (1986b) in this centre but slightly higher than that of Kuti *et al*. (2006).

The second twin was found to have a weight advantage in this study. This was also, similar to an earlier finding in this centre (Fakeye, 1986a). Twins are considered to be discordant when the difference in their birth weights is >20-25% (Chike-Obi, 1993). This condition is said to occur in about 10% of twin gestation. A discordant rate of 8.3% was found in this study as earlier documented by Fakeye (1986b). The commonest fetal presentation in twin pregnancy at birth is cephalic-cephalic (Mutihir *et al*., 2007; Igberase *et al*., 2008). This was similarly demonstrated in this study as 36.1% of the fetal presentations were cephalic-cephalic. Where, the presentation of the first twin is not cephalic, there arises the need to consider operative/caesarean delivery. Abnormal presentation of the first twin occurred 40.6% of those studied. This contributed significantly to the rate of operative delivery as 43.9% of caesarean section was for abnormal presentation.

About a third of cases were delivered by caesarean section, while the remaining two-thirds were by vaginal route. This caesarean section rate (32.6%) is higher than that from Sagamu (Olatunji, 2002). This difference could be due to the fact that the later study involved a smaller number of patients of which all the case notes were retrieved, the indications for the caesarean section were also not stated.

Prematurity is a major contributor to perinatal morbidity and mortality in twin gestation world wide (Newman, 2003; Chikara and Berkowitz, 2002) and 33.3% of fetuses in this study were delivered preterm. This was close to findings in Sagamu and Ile-Ife, Western Nigeria (Chike-Obi, 1993; Kuti *et al*., 2006). Also, majority of perinatal mortality occurred in the preterm babies. This buttresses the finding of preterm labour as the commonest maternal complication of twin gestation in this study. Invariably, reduction in, or prevention of preterm labour will improve outcome in twin gestation.

CONCLUSION

Twin gestation continues to be a high-risk pregnancy despite advances in obstetric and perinatal care and facilities. The observations from this study were similar to previous findings in Nigeria, which shows that there is a high prevalence of twin pregnancy among the Yoruba speaking People in Nigeria. Preterm labour was commonest maternal complication and contributed to the perinatal outcome of the babies. Improved obstetric care and neonatal services, health education of the mothers and continuing medical education of the health care providers will improve outcome in twin pregnancies.

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