

OUTCOME OF TWIN PREGNANCY IN CALABAR, NIGERIA.

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ABSTRACT

A ten year retrospective study (between January 1989 to December 1998) to determine the incidence, pregnancy complication and outcome of twin births at the University of Calabar Teaching Hospital was carried out. There were 342 twin births out of 12,877 deliveries giving a twin delivery incidence of 26.5/1000 births. The highest twinning rate was found in women aged 25 to 29 years (33.5%) and para 2 mothers (23.5%). The main complications encountered were preterm labour (41.2%), pregnancy induced hypertension (11.1%), hyperemesis gravidarum (8.7%) and anaemia (6.8%). The caesarean section rate was 26%. The perinatal mortality rate was 100.6 per 1,000 births and the main cause of perinatal mortality was prematurity. To reduce the associated high maternal morbidity and perinatal mortality, early booking and improvement in existing neonatal facilities are recommended.

KEY WORDS: Outcome, Twin Pregnancy, Calabar

INTRODUCTION

The phenomenon of twinning has fascinated mankind throughout history and twin pregnancy is a high-risk pregnancy. This is because morbidity rates are appreciably increased in multiple compared to singleton pregnancies. There is also a disproportionately higher neonatal morbidity and mortality rates associated with twin deliveries than singleton births (Etuk 1998; Odum 1995). Twin pregnancies constitute a high risk maternity because of an increased incidence of obstetric complications like hyperemesis gravidarum, preterm labour, anaemia, pregnancy induced hypertension, antepartum haemorrhage, polyhydramnios, foetal malformations and a high perinatal mortality rate (Odum 1995; Neilson 1995). The perinatal mortality rate in twin pregnancies has been shown to be 5-6 times that in singleton pregnancies and is a reflection mostly of the high rate of preterm deliveries in twin pregnancies compared with singleton pregnancies (Owen 1995; Herruzo 1991).

There is a world wide variation in the incidence of twinning with rates as low as 5 per 1000 in far Eastern countries to over 30 per 1000 in some West African countries (Owen and Patel 1995). This variation is accounted for by different rates of dizygotic twinning with the monozygotic twinning rate being constant world wide at approximately 3.5 per 1000 deliveries (Owen and Patel 1995; Marivate and Norman 1982). Twinning rates amongst Nigerian women are among the highest in the world (Marivate and Norman 1982), but even in Nigeria, there are variations with the highest incidence reported amongst the Yorubas in south-western Nigeria (Nylander 1983). This high incidence amongst the Yorubas has been attributed to a high content of gonadotropin-like substance in the local variety of yam, which is the staple diet in the area (Nylander 1983). Other recognized predisposing factors to twinning include maternal age, increasing parity, use of ovulation induction agents and family history of twinning (Odum 1995; Neilson 1995).

The incidence and outcome of twin births in Calabar has not been previously documented, thus the objective of this study was to determine the rate, pregnancy complications and outcome of twin births as seen in the University of Calabar Teaching Hospital, Calabar, Nigeria.

MATERIALS AND METHOD

The obstetric records of all deliveries between the first of January 1989 to the 31st of December 1998, conducted at the University of Calabar Teaching Hospital were examined and the records of all twin births were extracted. The case notes were reviewed and clinical information obtained included age, parity, booking status, pregnancy complications, foetal presentation, mode of delivery, birth weight, sex distribution and perinatal outcome. The description of the placenta was in most cases poorly recorded hence the zygosity was determined by the Weinberg rule (Daw 1998). This rule states that the number of monozygotic twins in a given population is the result of total number of like sex twins minus unlike sex twins. The rule is based on the assumption that the total number of like sex dizygotic twins in a given large population of at least 100,000 people in a community equals that of unlike sex dizygotic twins. Therefore the excess of total like sex twins over total unlike sex twins will be due to monozygotic twins. The causes of perinatal death were based on clinical diagnosis as no autopsy was done.

The results of the findings were analyzed with simple percentages.

RESULTS

A total of 12,877 deliveries occurred during the study period and there were 342 twin births, giving a twin delivery rate of 26.5/1000 births. Only 323 case notes were retrieved and analysed. Dizygotic twins accounted for 81.5% while monozygotic twins occurred in 18.7% of the births.

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TABLE 1: MATERNAL AGE DISTRIBUTION

MATERNAL AGE	NUMBER (%)
15 - 19	19 (5.9)
20 - 24	67 (20.7)
25 - 29	108 (33.4)
30 - 34	103 (31.9)
35 - 39	15 (4.6)
40 - 44	11 (3.4)
TOTAL	323

TABLE II: MATERNAL PARITY

PARITY	NUMBER (%)
0	8 (2.5)
1	64 (20.7)
2	76 (23.5)
3	47 (14.6)
4	39 (12.1)
5	40 (12.4)
6	17 (5.3)
7	11 (3.4)
8	14 (4.3)
9	3 (0.9)
10	1 (0.3)
TOTAL	323

TABLE III: ANTENATAL AND POST NATAL COMPLICATIONS

COMPLICATION	NUMBER (%)
Preterm labour	133 (41.2)
Hyperemesis gravidarum	28 (8.7)
Pregnancy induced hypertension	36 (11.1)
Eclampsia	6 (1.9)
Antepartum haemorrhage	7 (2.2)
Post partum haemorrhage	8 (2.5)
Anaemia	22 (6.8)
None	83 (25.7)
TOTAL	323

Two hundred and eighty-eight mothers (84.2%) were booked while 54 (15.78%) mothers were unbooked, and there was a positive family history of twin pregnancy in 54 mothers (15.2%).

The maternal age distribution is shown in Table 1. The highest incidence occurred in mothers within the age range of 25 - 29 years (33.5%), followed by 30 - 34 years (31.9%).

Eight (2.5%) of the twin births occurred in nulliparous women and 86 births (26.6%) occurred in grand multiparous women. The highest incidence was found in para 2 mothers, 76 (23.5%) (Table II). One hundred and thirty three (41.2%) of the births were preterm (<37 weeks). Of these 14(4.3%) occurred at less than 30 weeks, 18(5.6%) between 30 - 33 weeks and 101(31.3%) occurred between 34 to 36 weeks gestation. Eight 8(2.5%) were post term and 182 births (56.4%) occurred at term. Three hundred and thirty six babies (52%) were of low birth weight (<2.5kg) while 310 babies (48%) were of normal birth weight (>2.5kg). There was a slight male preponderance in sex distribution, 325 males against 321 females. The most frequent antenatal complication was preterm labour which occurred in 41.2% of the cases. Other common complications included pregnancy induced hypertension which occurred in 11.5% of the cases and hyperemesis gravidarum which occurred in 8.7% of cases (Table III). There was no record of any maternal death in this study. Table IV illustrates the mode of delivery.

Spontaneous vaginal delivery occurred in 220 (68.1%) and 201 (62.2%) of first and second twins respectively. Assisted vaginal breech delivery was done in 8 (2.5%) of the first and 11(3.4%) of the second twins and breech extractions were done in 3(0.9%) of the second twins. The indication for the breech extractions was fetal distress. Vacuum extractions were done in 8(2.5%) of the first and 14 (4.3%) of the second twins and forceps deliveries were carried out in 6 (1.9%) and 10 (3.1%) of the first and second twins respectively. Caesarean sections were done in 84 deliveries (26%). The main indications for the caesarean sections were malpresentation of the first twin, severe preeclampsia/eclampsia and umbilical cord prolapse and in 3 cases a retained second twin. There were 65 perinatal deaths out of a total of 646 births giving a perinatal mortality rate of 100.6/1000 births. Twenty four (37%) were still births while 41 (63.1%) were early neonatal deaths. Identified causes of death were prematurity (27.7%), birth asphyxia (13.8%), infections (12.3%) and in 6(9.2%) cases the cause was unknown.

DISCUSSION

The incidence of twinning in this study (26.5/1000 births) is lower than rates reported from other parts of the country, 57.20 per 1000 among Yoruba women (Nylander 1971), 39.65 per 1000 for the Hausas (Rehan and Tafida 1980), but higher than 14.4/1000 reported in Maiduguri (Nwobodo and Bobzom 2002). The low incidence reported in this study could partially be attributed to adverse cultural practices like twin infanticide which was widely practiced among tribes in Cross River and Akwa Ibom states of Nigeria (Etuk 1998). Rumors still persist in contemporary time of maltreatment of twins in south Eastern Nigeria (Etuk 1998). Zygotic distribution of the twins with 81.3% for dizygotic and 18.7% for monozygotic twins were similar to those reported in Maiduguri. The incidence of twinning is reported in literature to increase with increasing age and parity (Odum 1995; Neilson 1995; Owen and Patel 1995). This relationship was however not apparent in this study as most of these births were found in women of low parity and maternal age less than 30 years. This study is however hospital based and may not be a true reflection of the indices that obtain in the real population, more so majority of the obstetric population in this environment would be expected to fall into these age range and parity.

Preterm labour was the most common complication documented and this finding correlates with previously published data (Nwobodo and Bobzom 2002). The increased incidence of preterm labour is generally attributed to uterine over-distension. It is thought that uterine contractions commence at a critical degree of myometrial stretch and then increase in frequency and

TABLE IV: MODE OF DELIVERY

MODE	1 ST TWIN (%)	2 ND TWIN (%)
Spontaneous vaginal delivery	220 (68.1)	201 (62.2)
Assisted breech delivery	8 (2.5)	11 (3.4)
Breech extraction	-	3 (0.9)
Caesarean section	81 (25.1)	84 (26.0)
Vacuum	8 (2.5)	14 (4.3)
Forceps	6 (1.9)	10 (3.1)
TOTAL	323	323

strength to cause ultimately, progressive dilatation of the cervix in labour (Quilligan 1981). Preterm deliveries and intrauterine growth restriction of some twins are both important aetiological factors of the increased incidence of low birth weight in multifoetal gestations (Buckens and Wilcox 1999). The caesarean section rate in this study (26.0%) was much higher than the caesarean section rate of 2.9 % and 11.0% respectively reported in Ibadan and Maiduguri (Adewumi and Adeleye 1977; Nwobodo and Bobzom 2002) and 14.6% for all deliveries in the same hospital (Etuk and Asuquo etal 1999). This is possibly a reflection of a higher degree of complications in multiple compared to singleton pregnancies and the ready recourse to cesarean sections in the management of such complications in this hospital. The main cause of perinatal death in this study was foetal prematurity/very low birth weight sequel to preterm labour. This is similar to reports obtained in other studies (Rehan and Tafida 1980; Nwobodo and Bobzom 2002). Other causes of death in this study were birth asphyxia and infections. Congenital abnormality, which is a common cause of perinatal morbidity and mortality in developed countries, could not be documented because a postmortem examination was not done in any case of death. Measures which have been proposed to reduce preterm labour include prolonged hospitalization and bed rest, routine cervical cerclage and routine beta-sympathomimetic therapy. These interventions have however not been shown to have demonstrable benefits (Neilson 1995; Owen 1995). Twin pregnancy is a high risk pregnancy associated with increased maternal and foetal morbidity and mortality. Women should therefore be encouraged to book early to enable early diagnosis of multiple pregnancy, detection and management of antenatal complications. There is also a need for improvement of our existing neonatal facilities to cater for these premature babies, since interventions aimed at the prevention of preterm labour are largely of unproven benefits.

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