MATERNAL MORBIDITY AND PERINATAL OUTCOME WITH TWIN PREGNANCY

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Background: Multiple pregnancy still warrants special attention as it is associated with increasing risk for mother and foetus. Preterm delivery increases the risk for baby. This study was conducted to evaluate the risks of pregnancy complications and adverse perinatal outcome in women with twin pregnancy. **Methods:** It was 2 years observational study from July 2007 to July 2009 at Department of Obstetrics and Gynaecology, Liaquat University Hospital, Jamshoro. All women admitted to the labour ward with multiple pregnancy after 28 weeks gestation were included in the study. Main outcome measures were maternal complications (i.e., anaemia, preterm labour, pregnancy induced hypertension, postpartum haemorrhage etc.), perinatal morbidity and mortality. All data collected was analysed using SPSS-16. **Results:** Incidence of multiple pregnancy in this study was 1.44%. Majority of women 52 (81%) were un-booked and only 12 (18%) were booked; 54 (84%) women presented with preterm labour, 10 (15.6%) were at ≥36 weeks of gestation. Fifty-four (84%) patients presented with preterm labour. Anaemia was found in 42 (65.6%), and hypertension was noted in 31.2% cases. Abruptio placentae occurred in 6.2% of cases, prematurity was the major problem (54, 84.3%). Majority presented between 28–35 weeks gestation, 10 (15.6%) delivered at 36 weeks or above. The most common cause of neonatal death was very low birth weight (in 32.8% cases), followed by sepsis and jaundice. **Conclusion:** Multiple pregnancy is associated with increasing risk for mother and foetus. Preterm delivery increases the risk for baby.

Keywords: Multiple pregnancy, pregnancy complications, preterm birth

INTRODUCTION

Multiple pregnancy still warrants special attention from obstetricians. Recognising the specialised nature of multiple pregnancy management, the RCOG study group on multiple pregnancy has recommended that, like for diabetes, multiple pregnancies be managed within any one hospital by a single consultant led multi disciplinary team.[1] A traditional approximation of the incidence of multiple pregnancy is 1:80[2] and triplets 1:6400[3].

Advances in assisted reproductive techniques such as drugs for induction of ovulation *in vitro* fertilisation and a variety of intra-fallopian transfer procedures have resulted in increased number of higher order multiple pregnancy.[4–7]

Babies born from multiple birth pregnancies are more likely to result in premature birth than those from single pregnancies. Fifity-one percent of twins and 91% of triplets are born preterm, compared to 9.4% in singletons.[8] Fourteen percent twins and 41% of triplets are born very preterm, compared to 1.7% in singletons.[8]

About half of twins are born with a birth weight of less than 2,500 g (5.5 lb).[9] However the chances of survival for very small twin babies are higher than for very small single babies.[10] Twin to twin transfusion syndrome, is a rare but potentially serious complication in identical twins these days, survival rates are much higher, thanks to early detection and also to laser treatment, which is performed in a few hospitals specialising in this procedure (NICE 2006).[11]

Cerebral palsy is more common among multiple birth than single births, being 2.3 per 1,000 survivors in singletons, 13 in twins and 45 in triplets.[12]

Multiples are known to have a higher mortality rate.[13] Today many pregnancies are the result of fertility therapy, so limiting the number of embryo transferred can reduce the risk of having multiples and so reduce the risk associated with multiple pregnancies.[14–16] Multiple pregnancy puts mother at risk of miscarriage, pre-eclampsia, APH, PPH, iron and folic acid deficiency anaemia, polyhydramnios, preterm labour, PROM and increased rate of caesarean section.[17] Pre-eclampsia is 2–3 times more common in multiple than singleton pregnancy and likely to be more severe.[18]

Every woman with a high order multiple pregnancy should be counselled about the risk of continuing the pregnancy, the likely management and the offer of multifoetal pregnancy reduction (MFPR). Higher order multiple pregnancies should be managed in tertiary perinatal centres with a foetal medicine service.

MATERIAL AND METHODS

All women admitted to the labour ward with multiple pregnancy after 28 weeks gestation were included in the study. Women with gestational age less than 28 weeks were excluded from the study. This observational study extended over a period of two years from July 2007 to July 2009. Demographic

information included maternal age, parity, history of infertility treatment, family history of twin pregnancy, any previous twin pregnancy, gestational age at time of presentation, booked or un-booked, time of last steroid injection given, antenatal admissions, antenatal complication. Neonatal outcome included gestational age at birth, birth weight, stillbirth, death prior to discharge, live born, discharged alive, presence of respiratory distress syndrome (RDS), need of mechanical ventilation, APGAR score, length of hospital stay, and maternal outcome of all women including use of induction of labour, mode of birth, primary or major postpartum haemorrhage and postpartum pyrexia. Main outcome measures were maternal complication (i.e., anaemia, preterm labour, pregnancy induced hypertension, postpartum haemorrhage etc.), perinatal morbidity and mortality. Data was analysed using SPSS-16.

RESULTS

A total of 4,417 patients were delivered during the study period, of which 64 (1.44%) women presented with twin pregnancy. Majority of women belonged to age group 31–40 (54.7%) Table-1, most of the women were unbooked and only 12 (18%) were booked.

Frequency of twin gestation was 15.6% in Primigravida 34.4% in multigravida and 50.0 % in Grand multigravida. (Table-2)

Major maternal complication were preterm labour and premature rupture of membranes (84%), Anemia (65.6%), PIH (31.2%), Abrupto placentae (6.2%) and postpartum hemorrhage in 12.5% (Table-3).

Antenatal steroids were given to all patients threatening to deliver prior to 34 weeks gestation, mode of delivery was spontaneous vertex vaginal delivery in (50.0) of cases vaginal Breech assisted in 6.2% and caesarian section in 43.8% of cases.

When perinatal outcome was analyzed, prematurity was major problem in patients with twin pregnancy, majority 84.3% presented between 28-35 weeks of gestation 15.6% came in labour at 36 weeks or above, 35.9% twin a had birth weight between 1500 to 2500 groups and twin B (42.2%) hard birth weight between 1500 to 2500 grams.

Still birth acquired in 9.4% of babies. Neonatal death due to very low birth weight was 32.8% for twin A and 34.4% for twin B. followed by sepsis and jaundice as a reason for neonatal death. Sepsis and jaundice was slightly higher in twin B as compared to twin A.

Table-1: Distribution all to age (n=64)

Age group	Number	Percentage
18–20	9	14.1
21–30	20	31.2
31–40	35	54.7

Table-2: Distribution according to parity

Parity	Number	Percentage
Primigravida	10	15.6
Multigravida	22	34.4
Grand Multigravida	32	50.0

Table-3: Maternal complications (n=64)

Complication	Number	Percentage
PROM and Preterm Labour	54	84.4
Anaemia	42	65.6
Hypertension Disorders	20	31.2
Abrupto Placentae	4	6.2
Postpartum Haemorrhage	8	12.5

DISCUSSION

Twin pregnancy is a high risk pregnancy associated with increased maternal morbidity and increased perinatal morbidity and mortality. The incidence of twin pregnancy in this study was 1.44%. A relatively high rate can be explained on the basis that Liaquat University Hospital being a referral centre from rural Sindh. A similar high incidence of multiple pregnancy was found in the study done by Syeda Batool Mazhar in 2006 at MCH Centre Islamabad[19] and by Shamsa Akhtar in 1996[20].

The highest incidence was found in women age group between 31–40 (54.1%), which reported that bearing children at older age results in multiple gestations. The similar observation was found in the study conducted by Malik MS *et al*, Lahore.[21]

Most of the women presented with preterm labour at <36 weeks 15 (84%) and 6% were at gestational age at >36 weeks.

Mean gestational age at birth inversely related to plurality. Similar observation was noted in a study done in United States, Mean gestational age was 39 weeks in singletons, 35.8 weeks in twins and 32.5 weeks in triplets.[22] A large epidemiologic analysis found that only 16% remain undelivered at 36 weeks of gestation. In the present study most of the patients belonged to parity 5 or above, similar results were found in the study by Saleem Malik.[21]

Most (81.2%) of the women were un-booked. The same frequency of un-booked cases was found in a study conducted by Naqvi MM in 2003 at Wah Cantt Hospital, where among 96 cases, 65 patients were un-booked. This shows lack of accessibility to antenatal services by majority of women.[23]

During the antenatal period, anaemia, preterm labour, PIH and Abruptio placentae were the major complicating factors, preterm labour 84%, anaemia was found in 42 (65.6%) of women, PIH in 31.2%, Abruptio placentae in 6.25% of cases. However in a study done by Shahela Khatiq, anaemia was most common complication followed by preterm labour, PIH and (Intrauterine growth restriction) and in twin pregnancy.[24]

In our study spontaneous vaginal delivery was more common for twin A (50%), for twin B it was 35%. Caesarean section rate was 43.8% for twin A, and 46.9% for twin B.

It is well known that birth weight and gestational age are most important factors affecting perinatal mortality and are the most significant determinants of infant and childhood morbidity. Luke and Keith in 1992, reported on the contribution, during a contemporary time frame, of singletons, twins and triplets to low birth weight infants mortality and handicap in the United States, twins were reported to have an overall risk of 1.4 when compared with singletons.[25] Prematernity and low birth weight was the major problem found in our study.

Twin A had birth weight between 1,500 to 2,500 grams, and among twin B 42.2% had birth weight between 1,500 to 2,500 groups, however 67.1% had very low birth weight (<1,500 grams) 9.4% of babies were stillborn, 76.56% of babies were born alive. The most common cause of neonatal death was very low birth weight, it was 32.8% for twin A and 34.4% for twin B, followed by sepsis and jaundice. Sepsis and jaundice was slightly higher in twin B as compared to twin A.

CONCLUSION

Multiple pregnancies are associated with increased maternal and perinatal risks. There is a need for specialised prenatal care to reduce complications and adverse outcome in multiple pregnancies, and the need for ongoing social and medical care beyond the prenatal and perinatal periods.

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