

STUDY OF MATERNAL AND FETAL OUTCOME IN TWIN PREGNANCY

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ABSTRACT

Introduction: Multiple gestation is considered a high risk pregnancy.¹ The increased rate of multiple gestation can be attributed to various factors including increase in the use of ovulation inducing agents, a rise in the number of women conceiving at an advanced age with higher chances of multiple gestation and the use of assisted reproductive techniques (ART).^{1,2} Compared to singleton pregnancies, multiple pregnancies are reported to carry higher maternal as well as perinatal morbidity and mortality.³ The various complications encountered in mothers are anaemia, hyperemesis, preterm labour, hypertensive disorders of pregnancy, antepartum haemorrhage, polyhydramnios, increased pressure symptoms, varicose veins and gestational diabetes. Low birth weight, contributed by both prematurity and IUGR, is the main factor responsible for higher perinatal mortality in twins.^{3,4}

Objective: The aim of this study was to assess the occurrence of twin gestation and maternal & fetal outcome in terms of maternal/fetal and neonatal complications.

Methodology: This retrospective study was conducted at the department of Obstetrics and Gynecology Unit "C" Hayatabad Medical Complex, Peshawar from January to December 2017.

A total of 129 women in the age range of 18 to 45 years with twin pregnancy fulfilling the study inclusion criteria were included in the study. Data of these cases, both for mother and neonates was retrieved from the medical records. Direct interviews of the women, subject to their availability, were also conducted. All the data was entered into a proforma for ease of processing. After admission to the hospital detailed history followed by thorough examination and investigations were obtained. Data was analyzed through Statistical Package for Social Sciences (SPSS) Version 16 and the results expressed as frequencies, percentages, mean and standard deviation.

Results: During the study period 76 patients fulfilling the inclusion criteria were grouped in the age range from 18 to 45 years and the highest prevalence of multiple pregnancy (38.16%) was found in multi and grand multi gravida women aging above 32 years. Anemia (50.39%) and preterm labour (44.19%) were the most common maternal complications followed by pregnancy induced hypertension, APH and PPH. Prematurity (40.09%) was the most common fetal outcome and main reason for perinatal mortality. Stillborn and early neonatal deaths were 32 (12.40%) of which 10 neonatal deaths were due to congenital malformation.

Conclusion: Risks to fetal and maternal outcome are higher in multiple pregnancy as compared to singleton pregnancy. It is imperative to develop and implement strategies to provide intensive care to the women with multiple pregnancy to protect them and the neonates from complications which can adversely affect or threaten their lives.

Key words: Multiple pregnancy, fetal prematurity, anemia, perinatal mortality.

INTRODUCTION

According to the World Health Organization (WHO) it is estimated that annually 287,000 maternal deaths and 3 million neonatal deaths occur globally, 99% of which occur in developing countries.^{5,6} Multiple gestation is considered a high risk pregnancy. Currently,

multiple gestations constitutes up to 3% of all pregnancies.⁷

Demographically, the rate of multiple pregnancies in sub-Saharan Africa (20 is per 1000 deliveries) is higher than the rest of world with rates of 10 per 1000 deliveries in Europe and 5-6 per 1000 deliveries across Asia. Worldwide, the highest prevalence of multiple births is in Nigeria.^{8,9}

The increased rate of multiple gestation can be attributed to various factors including increase in the use of ovulation inducing agents, a rise in the number of women conceiving at an advanced age with higher chances of multiple gestation and the use of assisted reproductive techniques (ART).^{1,2}

Compared to singleton pregnancies, multiple pregnancies are reported to carry higher maternal as

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well as perinatal morbidity and mortality.³ The various complications encountered in mothers are anaemia, hyperemesis, preterm labour, hypertensive disorders of pregnancy, antepartum haemorrhage, polyhydramnios, increased pressure symptoms, varicose veins and gestational diabetes. Low birth weight, contributed by both prematurity and IUGR, is the main factor responsible for higher perinatal mortality in twins.^{3,4}

With increased rate of multiple pregnancies compared to past and associated higher risks to fetal and maternal outcome than singleton pregnancy, it has become a subject of great interest for the obstetricians to study and make recommendations to cope with the complications associated with multiple pregnancies.

This retrospective study was conducted to assess the occurrence of twin gestation and maternal & fetal outcome in terms of maternal/fetal and neonatal complications.

MATERIAL AND METHOD

This retrospective study was conducted at the department of Obstetrics and Gynecology Unit "C" Hayatabad Medical Complex, Peshawar from January to December 2017 to assess the occurrence of twin gestation and maternal & fetal outcome in terms of maternal/fetal and neonatal complications.

All women admitted to the antenatal ward and labor room with clinical or ultrasound diagnosis of multiple pregnancy were considered for this study. These women were received either through emergency or referred by private clinics. Women of the age range of 20 to 40 years with multiple pregnancy of 28 to 42 weeks gestation were included in the study. Women with gestational age less than 28 weeks and lethal fetal anomaly of either of the fetus were excluded from the study.

After admission to the hospital unit, detailed history of the patients was taken and all necessary examination and investigations conducted as per ward protocol. Diagnosis of multiple gestations was confirmed by trans abdominal ultrasonography performed by trained attending physicians. Data related to maternal age and parity, demographic and socioeconomic status, antepartum and intrapartum complications, neonatal outcome in terms of birth weight, APGAR score, NICU admissions and perinatal death, maternal medical and obstetrical complications etc. was recorded in a structured proforma.

Data was analyzed through Statistical Package for Social Sciences (SPSS) Version16 and the results expressed as frequencies, percentages, mean and standard deviation.

RESULTS

4407 deliveries were conducted in our unit during

Table 1: Maternal Profile (n = 129)

Profile	Nos.	%age
Age distribution		
18-24	11	8.53%
25-31	27	20.93%
32-38	72	55.81%
39-45	19	14.73%
Parity		
Primi	17	13.18%
Multi	48	37.21%
Grand Multi	64	49.61%
Gestational age		
28-36	98	75.97%
>36	31	24.03%
Registration		
Booked	33	25.58%
Unbooked	96	74.42%

Table 2: Maternal Complications (n = 129)

Complication	Nos	%age
Normal (No complications)	39	30.23%
Anemia	65	50.39%
Preterm labour	57	44.19%
Hypertensive disorder	26	20.16%
Diabetes	21	16.28%
APH	13	10.08%
PPH	20	15.50%
SGA	5	3.88%

Table 3: Fetal Outcome (n = 258)

Outcome	Nos. (%)	Total (%)	
Normal (No complications)	88	34.11%	
Prematurity	106	41.09%	
NICU Admission	28	10.85%	
Congenital Malformation	10	3.88%	
APGAR (5min)	Normal	156	60.47%
	Low	102	39.53%
SB / ENND	32	12.40%	

the 12 month study period. Among these 134 (3.04%) women presented with twin pregnancy. Applying the inclusion criteria, 129 cases were considered for this study. Maternal profile of these women is shown in Table 1. Majority of the women (55.81%) with twin pregnancy fall in the age group of 31 to 40 years followed

Table 4: Mode of delivery

Mode of Delivery	Nos. (%)	Total (%)
NVD	56	43.41%
Instrument assisted	11	8.53%
Cesarean section	62	48.06%

by 20.93% in the age group of 21 to 30 years. Mean maternal age at presentation was 33.37 ± 4.86 years.

Twin pregnancy was noted more common in women with higher parity as compared to primiparous women, the frequency being 13.18% in primigravida, 37.21% in multigravida and 49.61% in grandmultigravida women. 79.07% of the women presented with period of gestation between 28 to 36 weeks and the remaining 20.93% were at gestational age greater than 36 weeks. Higher proportion (74.42%) of the women were received as unbooked.

39 (30.23%) of women had no complications. Among the rest, the most important maternal complications were anemia (50.39%), preterm labour (44.19%), pregnancy induced hypertension (20.16%), diabetes (16.28%), APH (10.08%), PPH (15.50%), and SGA (3.88%) (Table 2)

88 (34.11%) of the babies were born with good health with no complications at all. Prematurity was observed in 106 (41.09%) of the babies among whom 18 (6.98%) had very low birth weight which led to most of the early neonatal deaths due to different reasons including respiratory distress, jaundice, septicemia and pulmonary hemorrhage. Perinatal deaths also include 10 stillborn. Congenital malformation was responsible for 10 neonatal deaths.

Spontaneous labour was noted in 54 (41.86%) of women while in 13 (10.08%) of the women labour started after induction through inducing agents. 56 (43.41%) of women delivered normally through vaginal route while 11 (8.53%) required instrumental assistance to deliver the babies. Cesarean section was performed in 62 (48.06%) of the cases. Elective caesarean sections were performed in 28 (21.71%) mostly for fetal malpresentations. Emergency sections were performed for fetal distress, APH and failure of progress of labor. (Table 4).

DISCUSSION

Multiple gestation is considered a high risk pregnancy due to various reasons including maternal complications and poor neonatal outcome. Long term developmental problems and cost are additional. However in spite of all the awareness, the trend of twin pregnancy is on the rise worldwide. The incidence of twin pregnancy, in this study, is 2.93% which is higher than the figures reported for Asia. The higher incidence of multiple pregnancy can be credited to various factors including increase in the use of ovulation inducing

agents, a rise in the number of women conceiving at an advanced age with higher chances of multiple gestation and the use of assisted reproductive techniques. Higher rate of referral of high risks cases to our hospital which is equipped with all required facilities for neonatal care may also be one of the contributing factor.

The highest percentage (55.81%) of twin pregnancy was found in women aging between 32-38 years with multi and grandmulti gravida. Similar findings have been reported in other studies¹⁰ and validate the reports that bearing children at older age results in multiple pregnancies.

Twin pregnancy carries a number of complications with it. The most common among these are anemia and premature delivery. In our study, 65 (50.39%) of the women were anemic which can be attributed mainly to malnutrition and lack of antenatal care. On the average, twin pregnancy persists for about 35 weeks.¹¹ Preterm delivery is the most common event occurring in about one-half of the twins and accounts for 10 to 12% of all preterm births. In the present study, the incidence of prematurity is 41.09%, which is comparable to the reported rate falling between 29-54% in various other studies.⁴ Other notable maternal complications were pregnancy induced hypertension (20.16%), diabetes (16.28%), APH (10.08%), PPH (15.50%) and SGA (3.88%). These findings endorse the outcomes of other recent studies of this region.^{4,10}

Perinatal mortality is four times higher in twins and six times higher in triplets as compared to singletons, attributable to the increased incidence of prematurity and intrauterine growth restriction specific to multiple pregnancy.^{12,13} In this study 32 (12.40%) babies died including both stillborn and early neonatal deaths making the perinatal mortality rate of 124 per 1,000 births. The earliest the gestational age at delivery, the higher was the rate of perinatal deaths. As majority of the patients were received unbooked, lack of neonatal and maternal care led to prematurity; a major factor to increase the chances of neonatal deaths.

In this study, 56 (43.41%) of women delivered vaginally, while 11 (8.53%) women gave birth to babies with instrumental support. Cesarean section was performed in 62 (48.06%) of the cases mostly due to fetal malpresentations, fetal distress, APH and failure of progress of labor.

CONCLUSIONS

With increased rate of multiple pregnancies compared to past and associated higher risks to fetal and maternal outcome than singleton pregnancy, it is imperative to develop and implement strategies to provide intensive care to the women with multiple pregnancy to protect them and the neonates from complications which can adversely affect or threaten their lives. Specialized campaign to increase awareness

among masses in this regard could be of the helpful strategies.

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