STUDY OF MATERNAL AND FOETAL OUTCOME IN TWIN PREGNANCY

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ABSTRACT

BACKGROUND

In comparison to singleton pregnancies, twin pregnancies are considered a high risk pregnancies associated with perinatal mortalities and maternal morbidities due to unnecessary use of ovulation induced drugs.

The aim of the study is to evaluate the maternal and foetal outcomes in twin gestations and to find the various factors that contribute to adverse perinatal outcome.

MATERIALS AND METHODS

This study was carried out in Laxmi Narasimha Hospital, Warangal, Hanamkonda, Telangana, an over a period of May 2015 to August 2016.

RESULTS

Most of the women were in their fertile age i.e. in between 20-30 years of age (86.6%). In both primigravida and multigravidas, the twins were equal. Preterm labour complications were seen in 88.8% of the patients and PIH was seen in 11.2% of the patients. Anaemia was the most common mal-presentation seen in the patients which constituted to 33.3%. Number of patients who underwent mode of delivery through spontaneous vaginal section were 60 which constituted 66.7%, caesarean section were 25 which constituted 27.7%, instrumental vaginal section were 5 which constituted 5.6%. The number of patients who had the foetal birth weight <1500 grams were 59 which constituted 32.8%, between 1500 grams to 2000 grams were 66 which constituted 36.6%, >2000 grams were 55 which constituted 30.6%. The number of male babies were 110 (61.1%) and female babies were 70 (38.9%). Number of live births were 170 (94.4%), still births were 10 (5.6%). Number of patients admitted in ICU were 100 (55.6%), Neonatal morbidity was seen in 38 patients (21.1%), neonatal mortality was seen in 10 patients (5.6%). The most common cause of neonatal death was septicaemia followed by respiratory distress, pulmonary distress and DIC.

CONCLUSION

This study concluded that deaths were majorly due to extremely premature and very low birth weight babies. These babies had septicaemia or respiratory distress. By averting pre-term births, by taking good rest, cervical encerclage, when incompetence is suspected, short term tocolysis, prevention of anaemia and pre-eclampsia, glucocorticoid administration can prevent these deaths.

KEYWORDS

Twin Pregnancies, Preterm Labour, Perinatal Outcome.

HOW TO CITE THIS ARTICLE: Rani BS, Lakshmi TV. Study of maternal and foetal outcome in twin pregnancy. J. Evid. Based Med. Healthc. 2018; 5(6), 483-486. DOI: 10.18410/jebmh/2018/98

BACKGROUND

Twin pregnancy was considered as a pregnancy of high risk. Multiple births was seen in sub-Saharan Africa which had the highest burden, with an average rate of twining of 20 per 1000 deliveries when compared to 10 per 1000 deliveries in Europe, or around 4-5 per 1000 deliveries in Asia.[1] Worldwide, Nigeria had the highest multiple births. Twining is principally attributable to genetic and environmental factors namely maternal age and increased parity and thus, it is a multifactorial phenomenon.[2] Twining occurs in approximately in 1% of pregnancies, and it has been reported to be responsible for 10 % of perinatal mortality in India. Due to many reasons, such as increased use of reproductive techniques, and more number of women having pregnancy at advanced age, the incidence of twins is on rise.[3] Maternal and fetal complications were associated with twin pregnancies. Common maternal complications are nutritional anemia, pregnancy induced hypertension, antepartum haemorrhage, preterm labour and polyhydramnios.[4] In monozygotic twins, fetal complications were observed were more when compared to dizygotic twins. Still births, cord complications, fetal malformations, vascular malfunctions, fetal growth, and preterm labour are the risks of monochorionic twin gestations.[5] During antenatal period, prenatal diagnosis of twin gestation by ultrasonography can give more vigilance to obstetrician. Twin pregnancy symptoms are not so much different to normal pregnancy symptoms, but they are felt much earlier.

Financial or Other, Competing Interest: None.
Submission 05-01-2018, Peer Review 09-01-2018,
Acceptance 22-01-2018, Published 30-01-2018.
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For the stage of gestation, twin pregnancy symptoms tend to be felt more clearly and with more emphasis before the normal gestational age and stage. It is important to remember that just as every woman is unique and her pregnancy highly individual, there are some "classic" or standard symptoms which are attributed to twin pregnancy. Many of these are due to the elevated and more concentrated levels of hCG (Human Chorionic Gonadotrophin Hormone) which is the pregnancy hormone. It is primarily responsible for sustaining the embryo and maximising its chances of survival. This study evaluated the maternal and foetal outcomes in twin gestations and to find the various factors that contribute to adverse perinatal outcome.

Aim

This study evaluated the maternal and foetal outcomes in twin gestations and to find the various factors that contribute to adverse perinatal outcome.

MATERIALS AND METHODS

This study was carried out in Laxmi Narasimha Hospital, Warangal, Hanamkonda, Telangana, over a period of May 2015 to August 2016. All women during antenatal period or during labour with twin gestations were admitted and enrolled in the study. All women were followed up till delivery throughout the pregnancy. Till discharge from the hospital, mother and baby were followed up. All premature babies were given nasogastric foods or through parenteral fluids and were kept under supervision in ICU, till capable of taking breast feeds. All the patients history was taken such as gestational age, parity, nature of conception, use of ovulation induced drugs, maternal or obstetrics complications, foetal weight, foetal discordancy, foetal viability, malformations, abnormal vascular communications and presentations of foetuses. Data related to maternal and foetal outcomes were analysed by finding percentages and proportions.

RESULTS

In this study, there were a total of 6000 deliveries, including 90 twin deliveries, giving twin delivery rate of 1.38%.

Maternal Profile	Number of Cases (n=90)	Percentage
Age Distribution		
< 20 years	10	11.1%
20-30 years	78	86.6%
>30 years	2	2.3%
Parity Distribution		
Primi	50	55.5%
Multi	40	44.5%
Gestational Age		
<34 years	30	33.3%
34-37 years	50	55.5%
>37 years	10	11.2%

Table 1. Demographic Profile of Maternal and Antenatal Complications in Relation to Twin Deliveries

Table 1 shows that most of the women were in their fertile age i.e. in between 20-30 years of age (86.6%). In both primigravida and multigravidas, the twins were equal. Most of the women were registered for antenatal care (70%) and were attending the antenatal clinic regularly.

Antenatal complications	Number of Cases (n=90)	Percentage
Preterm labour	80	88.8%
PIH	10	11.2%
Mal-presentations		
First Baby	4	4.4%
Second Baby	25	27.7%
Anaemia	30	33.3%
Hydramnios	11	12.3%
APH	8	8.9%
PROM	12	13.4%

Table 2. Common Antenatal Complications

Table 2 shows that preterm labour complications were seen in 88.8% of the patients and PIH was seen in 11.2% of the patients. Anaemia was the most common mal-presentation seen in the patients which constituted to 33.3%.

Perinatal outcome	Number of Cases	Percentage
Mode of delivery		
Spontaneous Vaginal	60	66.7%
Caesarean	25	27.7%
Instrumental vaginal	5	5.6%
Foetal Birth weight		
<1500 grams	59	32.8%
1500-2000 grams	66	36.6%
>2000 grams	55	30.6%
Sex of the baby		
Males	110	61.1%
Females	70	38.9%

Table 3. Relation Between Perinatal Outcome and Mode of Delivery

Table 3 shows that number of patients who underwent mode of delivery through spontaneous vaginal section were 60 which constituted 66.7%. The number of patients who underwent mode of delivery through caesarean section were 25 which constituted 27.7%. The number of patients who underwent mode of delivery through instrumental vaginal section were 5 which constituted 5.6%. The number of patients who had the foetal birth weight <1500 grams were 59 which constituted 32.8%. The number of patients who had the foetal birth weight between 1500 grams to 2000 grams were 66 which constituted 36.6%. The number of patients who had the foetal birth weight >2000 grams were 55 which constituted 30.6%. The number of male babies were 110 (61.1%) and female babies were 70 (38.9%).

Perinatal outcome	Number of Cases	Percentage
Foetal outcome at birth		
Live Birth	170	94.4%
Still Birth	10	5.6%

Neonatal Outcome		
ICU admission	100	55.6%
Neonatal morbidity	38	21.1%
Neonatal mortality	10	5.6%
Causes of neonatal deaths		
RDS	10	-
Septicaemia	15	-
Pulmonary haemorrhage	5	-
DIC	2	-

Table 4. Relation between Perinatal Outcome and Mode of Delivery

Table 4 shows that number of live births were 170 (94.4%), still births were 10 (5.6%). Number of patients admitted in ICU were 100 (55.6%), Neonatal morbidity was seen in 38 patients (21.1%), neonatal mortality was seen in 10 patients (5.6%). The causes of neonatal deaths were due to respiratory distress (RDS) were 10, due to septicaemia were 15, due to pulmonary haemorrhage were 5 and due to DIC were 2.

DISCUSSION

Vidyadhar B. Bangal et al,[6] reported 1.49% incidence of twins. On regular basis, 76% cases were booked and attended antenatal clinic. The most common obstetric complication was preterm labour (84%), whereas, the most common medical complications were nutritional anaemia (66%) and pregnancy induced hypertension (18%). The caesarean section rate was 33%. There was no serious maternal morbidity or mortality. Out of 35 perinatal deaths, 20 were early neonatal deaths. Majority of perinatal deaths were due to extreme prematurity (37%) and very low birth weight (33%). Respiratory distress, fulminant septicaemia, pulmonary haemorrhage and DIC were the causes of deaths where as in the present study, preterm labour complications were seen in 88.8% of the patients and PIH was seen in 11.2% of the patients. Anaemia was the most common mal-presentation seen in the patients which constituted to 33.3%. Number of live births were 170 (94.4%), still births were 10 (5.6%). Number of patients admitted in ICU were 100 (55.6%), Neonatal morbidity was seen in 38 patients (21.1%), neonatal mortality was seen in 10 patients (5.6%). The most common cause of neonatal death was septicaemia followed by respiratory distress, pulmonary distress and DIC.

Enid Simon Chiwanga et al;[7] reported that There were 822 (2.1%) multiples of 33997 births. Women with multiple gestations had increased risk for pre-eclampsia (OR 2.6; 95% CI: 1.7-3.9), preterm labour (OR 5.6; 95% CI: 4.2-7.4), antepartum haemorrhage (OR 1.6; 95% CI: 1.1-2.3), anaemia (OR 2.0; 95% CI: 1.6-2.6) and caesarean section (OR 1.5; 95% CI: 1.4-1.7) compared with singletons. There were six maternal deaths among women with multiple gestations in which all had postpartum haemorrhage. This increased the case fatality rate to 15.8%.

Mahendra Raj Pandey et al;[8] conducted a study in which it was reported that during the study period, there were a total of 144 multiple pregnancies who had delivered with the overall incidence of 1.9 per 1000 births. Among these, there were 5 triplet pregnancies. Preterm delivery (62.58%), anaemia (8.6%), pregnancy induced hypertension (5%), and antepartum haemorrhage (2.2%) were the main maternal adverse outcomes. 34.6 weeks for twins and 33 weeks for triplets were the mean gestational age at delivery. Vaginal 54% of first twin and 52% of second twins whereas 3 triplets delivered by caesarean section and two delivered vaginally was the commonest mode of delivery where as in the present study, number of patients who underwent mode of delivery through spontaneous vaginal section were 60 which constituted 66.7%, caesarean section were 25 which constituted 27.7%, instrumental vaginal section were 5 which constituted 5.6%.

Naushaba Rizwan et al;[9] reported that incidence of multiple pregnancy 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, whereas in the present study, the most common cause of neonatal death was septicaemia followed by respiratory distress, pulmonary distress and DIC.

Shugufta Yasmeen Rather et al;[10] reported that primigravidae was seen in most of patients with twin pregnancy (34%). With preterm labour (68%) as the most common indication for admission to hospital, 70% patients were admitted between the pregnancies of 28-36 weeks duration. The antenatal complications observed were Anaemia (63%), gestational hypertension (28%), premature rupture of membranes (24%), Intra-Uterine Death of one foetus (12%) and intra uterine growth retardation (10%). Out of the 100 patients, 40 (40%) delivered by vaginal route whereas 60 (60%) had to undergo caesarean section. The most common indication (50%) for caesarean section was malpresentation. Due to complications related to prematurity: hyaline membrane disease, hyperbilirubinemia, the 100 women of twin pregnancy gave birth to 188 live-born babies, 12 stillborn (intrauterine death of one foetus) and 28 (14.8%) died by the end of one week.

CONCLUSION

This study concluded that deaths were majorly due to extremely premature and very low birth weight babies. These babies had septicaemia or respiratory distress. By averting pre-term births, by taking good rest, cervical encerclage, when incompetence is suspected, short term tocolysis, prevention of anaemia and pre-eclampsia, glucocorticoid administration can prevent these deaths.

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