

Retrospective Study of Maternal and Perinatal Outcome of Twin Pregnancy in a Teaching Hospital

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Abstract: multiple pregnancy is considered to be a teratogenic event and has shown increase in incidence over last decades. It is associated with high maternal morbidity, perinatal morbidity and mortality. This study is undertaken to evaluate the outcome of twin pregnancy in our hospital.

Methods: this is a retrospective study conducted at mandya institute of medical sciences in the department of obstetrics and gynaecology between Jul 2012 to Jun 2014.

Results: most common age group was between 20- 30 years, maternal complications like preterm labour, anaemia and PIH are common, preterm babies and low birth weight are most common perinatal morbidity encountered. most common presentation was cephalic-cephalic. low Apgar score was more common with second twin.

Conclusion: Regular antenatal surveillance should be promoted for all multiple pregnancy with routine use of antenatal steroids, delivery must be conducted in a hospital with NICU facilities to prevent /counteract perinatal complications.

Keywords: High risk pregnancy, Twin pregnancy, Maternal outcome, Fetal outcome.

I. Introduction

Multiple gestation is considered as teratogenic event in humans. It has increased in last decades due to pregnancy at older age and assisted reproductive technology. prevalence of twin births varies considerably i.e. 2-20 per 1000 Birth throughout world. Twin pregnancies have increased rates of obstetric and perinatal complications such as preeclampsia, post-partum haemorrhage and preterm birth.⁽¹⁻⁴⁾, which are known risk factors for maternal and perinatal mortality. The main causes of adverse neonatal outcomes in multiple pregnancies are related to prematurity, fetal growth restriction and low birth weight⁽²⁾. In addition, the risk of congenital anomalies is about 1.7 times higher than among singleton pregnancy. Twin gestation is a high risk for both mother and fetus, this study is to evaluate both obstetric and perinatal outcome in this setup which help us to improve the same.

II. Methodology

A retrospective analysis of twin pregnancies delivered at a gestational age of more than 30 weeks, at the Obstetric Department of mandya institute of medical sciences from Jul 2012 to Jun 2014 conducted were included in the study, The cases were identified through the Institution birth registry and detailed information was obtained by analysis of hospital case sheets. following data were recorded for each case: maternal age, gestational age at birth, parity, antenatal complications, presentation, route of delivery, delivery interval between first and second twin, birth weight, type of placentation, and Apgar scores of both babies at birth.

chorionicity determined antenatally by ultrasound confirmation and delivery notes using anatomical examination of placenta. Birth weight less than 2500g is taken as low birth weight, apgar score was assessed at 1min and 5min after birth of both 1st and 2nd twin.

We found 60 cases of twin pregnancy between 30 weeks to term pregnancy delivered in our hospital in 12569 deliveries with the incidence of **5 per 1000 births.**

III. Results And Analysis

1) Table showing maternal age and number of pregnancy with percentage

AGE	Number	Percentage
< 20 yrs	2	3.3 %
20- 30 yrs	51	85%
>30 yrs	7	11.66%

Maximum incidence of twin gestation was in the age group of 20- 30 years.

2) Table showing parity and number of pregnancy

Parity	Number	Percentage
Primi gravida	28	46.6%
Multigravida	30	50%
Grand multigravida	02	3.3%

Slightly more incidence of twins seen in multigravida compared to primigravida

3) Table showing gestational age at delivery and number of cases with percentage

	Gestational age	Cases	Percentage
Term	>37weeks	24	40%
Borderline Preterm	34-36 weeks	20	33.3%
preterm	30-34 weeks	16	26.6%

Most of them delivered at term or near term.

4) Table with number of Antenatal complications and its percentage

High risk	Number	Percentage
PIH	10	16.66%
PROM	7	11.66%
Anaemia	10	16.66%
IUGR	5	7.6%
Preterm labour	18	30%
Hypothyroid	1	1.66%
Discordant growth	2	3.33%
No high risk factors	7	11.66%

Preterm labour, anaemia and PIH are most common complications encountered in our study.

5) Table with Fetal presentation at the time of delivery and percentage

Presentation	Number	Percentage
Cephalic –cephalic	28	46.6%
Cephalic – breech	13	21.66%
Breech –transverse	3	5%
Breech –cephalic	6	10%
Breech –breech	5	8.33%
Cephalic- transverse	5	8.33%

Most common presentation is cephalic to cephalic followed by cephalic to breech

6)table showing Mode of delivery of both 1st and 2nd twin

Mode of delivery	1 st twin	Percentage	2 nd twin	Percentage
Vertex vaginal delivery	30	50%	21	35%
Assisted breech delivery	2	3.33%	11	18.33%
Vacuum	3	5%	1	1.66%
LSCS	25	41.66%	27	45%

Overall 50% had vaginal delivery, 45% underwent LSCS.

7) table showing delivery interval between first and second twin in minutes

<1 min	16	26.66%
1-5 min	20	33.33%
5-10min	15	25%
>10 min	7	11.66%
>20 mins	2(preterm)	3.33%

Second twin delivered within five minutes in 60% of the cases.

8) Birth weight of the babies

SL NO	Birth weight	No of twins	Percentage
1	<1.5kg	16	13.33%
2	1.5 -2 kg	30	25%
3	2-2.4 kg	50	41.66%
4	>2.5 kg	22	18.33%

85% of the babies had birth weight more than 1500g

9) Type of placentation and twin pregnancy

Type of placentation	Number of cases	Percentage
Dichorionic diamniotic	32	53.3%
Monochorionic monoamniotic	2	3.33%
Dichorionic monoamniotic	21	35%

Most common type of placentation is dichorionic diamniotic twin

10) Apgar score and admission to NICU

Apgar score at min	1 st twin	Percentage	2 nd twin	Percentage
<7 at 1min	10	16.6%	15	25%
<7 at 5 min	5	8.33%	5	8.33%
Admission to NICU	Number	Percentage	Indication	
	22	36.6%	Prematurity	

In our study perinatal morbidity due to RDS, tachypnea and Jaundice was 36.6 % due to pre term deliveries but none of them had mortality, was followed upto 10 days

IV. Discussion

prevalence of twin births varies considerably i.e. 2-20 per 1000 Birth through world due to rampant use of ovulation inducing drugs, assisted reproductive technology and increased maternal age⁽¹⁻⁴⁾. In our hospital incidence is 5 per 1000 births. 85% belonged to the age group of 20-30 yrs which correlates with the study of sultana et al⁽⁵⁾ and Spellacy et al⁽⁶⁾. Our study also showed that 53.3% of women were multigravida which correlates with other studies^(5,6) median gestational age is 34.2 weeks. similar to other study⁽⁷⁾ having average gestational age of 34.4 weeks, In our study 60% had preterm delivery, correlating with preterm delivery from other series (29-54%)⁽⁸⁾.

Anaemia and twin gestation

	Incidence
Chowdary et al ⁽⁹⁾	35.8%
Spellacy et al ⁽⁶⁾	9.4%
Present study	16.6%

Most of our cases were booked ones, so incidence of anaemia is comparatively less

Preeclampsia and twin gestation

	Incidence
Spellacy et al ⁽⁶⁾	12.9%
Chowdary et al ⁽⁹⁾	28%
Present study	16.66%

Preeclampsia varies with race and age of the population

study demonstrated 45% had caesarean section correlates well with studies by Chowdhury et al⁽⁹⁾ and Sultana et al⁽⁵⁾ which showed 49.1% and 56%

In our study Perinatal morbidity requiring NICU admission was 36.6% mainly due to preterm deliveries and low birth weight. Similarly seen in Chowdhury et al⁽⁹⁾ and by Papierniek et al⁽¹⁰⁾ Apgar score at 5 min <7 was 8.33% of first as well as second twin. This correlates with the study by Chowdhury⁽⁹⁾ and sultana et al⁽⁵⁾ which showed 7.5% and 8% respectively. There is no perinatal mortality in our study, may be because all of them received antenatal steroids, and most of them were treated for threatened preterm labour (with a course of antibiotics, and a short course of tocolytics). we also counteracted prematurity with good NICU care. No severe post partum haemorrhage is observed in our subjects may be because of strict adherence with active management of third stage of labour in all these cases. No maternal mortality is seen in our study.

In our study 53.3% were Dichorionic diamniotic, 35% monochorionic diamniotic placenta. Similarly seen in other study⁽⁷⁾ showing 60.5 % Dichorionic diamniotic and 30.8% monochorionic diamniotic placenta.

V. Conclusion

Due to inherent biological factors, majority of twin pregnancies belong to high risk group, imposing hazards to both the mother as well as fetus. prematurity is the most common complication, can be tackled with routine use of antenatal steroids and good NICU facilities.

All twin pregnancies should be considered as high risk, enforce for regular antenatal care and planned delivery in a well equipped centre having emergency obstetric care and good NICU facilities.

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