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Study of Fetomaternal Outcome in Twin Gestation at Tertiary Care Centre in Western Rajasthan

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***Abstract**: Background: A pregnancy with more than one fetus is called multiple pregnancy. Multiple births are much more common today than they were in the past due to the dramatic incidence in the use of ovulation inducing agents, assisted reproductive technologies and a shift towards elderly primigravida and grand multiparity. Overall complications occur in approximately 83% of twin pregnancies as compared to 25% in singleton pregnancies. Hence twin pregnancies should be considered as high-risk pregnancies*
Objective: To study maternal and perinatal outcome in twin pregnancy at a tertiary care referral hospital in Western Rajasthan.
Material and Methods: This was a retrospective observational study over a period of one year. The diagnosis of all cases was made on the basis of history, clinical examination and ultrasonography.
Results: There was 9557 deliveries during this period and 116women with twin pregnancies (1.21%). Majority of the women studied, 72.42% were in age group of 20-25 years.In our study, 63.8% were multigravida and 36.2 % were primigravida. Most of the women had antenatal complications35.34% complicated with preterm labour,17.24% with hypertension,14.65% had anemia. When perinatal outcome was analyzed, prematurity was major problem in patients with twin pregnancy.
Conclusion: The knowledge of maternal and fetal complications helps in better surveillance, and in prevention of the morbidity and adverse outcome. Hence the need for better obstetric care, neonatal care, health services to get a better fruitful outcome.

***Keywords:** Twins, Ovulation induction, Preterm, Low, Perinatal morbidity, Perinatal mortality.*

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I. Introduction:

A pregnancy with more than one **fetus** is called **multiple pregnancy.** Multiple births are much more common today than they were in the past due to the dramatic increase in the use of ovulation inducing agents, assisted reproductive technologies and a shift towards elderly primigravida and multiparity, where multiple gestations are more likely to occur naturally.1,2 Multiple pregnancy warrants a special attention because they make a considerable contribution to the maternal / perinatal morbidity/mortality well in excess of that due to multiplication of singleton risk by fetal number. Overall complications occur in approximately 83% of twin pregnancies as compared to 25% in singleton pregnancies. Hence twin pregnancies should be considered as high-risk pregnancies.3,4 Twinning is a result of fertilization of two separate ova (dizygotic) and about one third of cases arise from division of a single fertilized ovum into two separate embryo (homozygosity).5Twin gestation is considered as a high-risk pregnancy. In India, twinning occurs in approximately 1% of all pregnancies and has been reported to be responsible for 10% of perinatal mortality.6 These rates of multi-fetal pregnancies have a direct effect on the rates of preterm birth and its comorbidities. In addition, the risks for congenital malformation and its consequences are greater with multi-fetal gestations.The risk of infant death rose proportionally with the number of fetuses in the pregnancy (Matthews, 2015). Specifically, the infant mortality rate for twins was more than four times the rate for single births. The increased maternal and perinatal morbidity and mortality rates are associated with pregnancy complications including gestational diabetes, preeclampsia, preterm labor, preterm PROM, placental abruption, pyelonephritis, preterm delivery, intrauterine growth restriction (IUGR), postpartum hemorrhage, congenital anomalies, and cerebral palsy. To minimize risks, patients with multiples pregnancy require close monitoring and frequent follow up. (ACOG, 2016). So, we planned this study in our institution to assess the maternal and perinatal complications with twin pregnancy.

II. Material and Methods:

This was a retrospective observational study conducted in Mathura Das Mathur Hospital, Dr S N Medical College, Jodhpur, Rajasthan over a period of one year from July 2018 to June 2019. This study included retrospective analysis of 116 women with twin pregnancies. There was a total of 9557 deliveries during this period and 116women with twin pregnancies (1.21%). Data were collected from the records present in Labor ward and Medical record section.

Inclusion criteria:

-Twin gestation with 28 completed weeks

Exclusion criteria:

-Gestational age less than 28 weeks and infant having birth weight <1kg.

Appropriate statistical methods were applied.

III. Results:

There was a total of 9557 deliveries during this period and 116women with twin pregnancies (1.21%).

In our study majority of the women studied, 72.42% were in age group of 20-25 years and 63.8% multigravida and 36.2 % primigravidae.

Antenatal steroids were given to all patients threatening to deliver prior to 34 weeks of gestation and according to fetal maturity.Commonest fetal presentation was both twins in vertex presentation in the study (63.8%).

Majority of the patients delivered vaginally (61.2%), followed by LSCS (Lower Segment Caesarean Section) (38.8%).

Most of the women had antenatal complications 35.34% were complicated with preterm labour, 17.24% with hypertension and 14.65% had anemia.

In our study out of 232 twin babies, 34.1% weighed between 1.5-2 kg, 26.3% weighed between 1-1.5kg and 36.8% needed NICU admission. And when perinatal outcome analyzed, prematurity was major problem in patients with twin pregnancy. Perinatal mortality being 29 (12.5%). Out of which 9 were IUD, 13 due to RDS due to prematurity and LBW.

Tables-

Table no-1 Distribution of patients according to age distribution

Age	Number	%
20-25 yrs	84	72.42 %
26-30 yrs	23	19.83 %
>30 yrs	9	7.75 %

Table no-2 Gestational age at delivery

Gestational age in weeks	Number	%
28-32	13	11.2
33-34	19	16.4
35-36	61	52.6
>36	23	19.8

Table no-3 Distribution of patients by fetal presentation

Presentation	Number	%
Vertex-Vertex	74	63.8 %
Vertex-Breech	29	25 %
Other	13	11.2 %

Table no-4 Maternal outcome/complication

Complications	Number	%
Anaemia	17	14.65
Hypertension (PIH and Pre-eclampsia)	20	17.24
Postpartum haemorrhage	3	2.59
Antepartum haemorrhage	6	5.17
Pre term labour	41	35.34
Polyhydramnios	7	6.03
Eclampsia	2	1.72
Oligohydramnios	5	4.31
Gestational diabetes	2	1.72
No complications	13	11.20

Table no-5 Birth weight of the twins

Birth weight	Number	%
<1 kg	5	2.2 %
1-1.5 kg	61	26.3 %
1.5-2 kg	79	34.1 %
2-2.5 kg	54	23.3 %
>2.5kg	33	14.1 %

Table no-6. Perinatal mortality

Cause of death	Number (29)	% (12.5%)
IUD	9	3.8 %
Birth asphyxia	7	3.1 %
Respiratory distress syndrome	13	5.6 %

IV. 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 1.21% A relatively high rate can be explained on the basis that Mathura Das Mathur Hospital being a tertiary care referral hospital.

Twin gestation is a high-risk pregnancy with unique antepartum, intrapartum as well as fetal complications.

Majority of the women studied, 72.42% were in age group of 20-25 years.Present study shows higher incidence of twins among multigravidas (63.8%) compared to primi(36.2%), as supported by study conducted by Chowdhury S7, that twins were more common in multi gravida (64.2%) and Dr bhawanaS et al8 that twin were more common in multigravida(60%).

The present study showed that the commonest antepartum complications associated with twin pregnancy were preterm labour (35.34%), which were low to the study conducted by Naushaba Rizwan et al9, where 84% patients had preterm labour and Dr bhawanaS et al8 where 76% had preterm labour.

In this study the incidence of anemia was 14.65%, Spellacy et al10 found anemia in 9.4% and Chowdhury et al7 in 26% and 65.6% in Naushaba Rizwan et al9 of twin pregnancies. There is a considerable improvement in the prenatal care in India which is evidenced by a much lesser incidence of anemia than it was in the past. Hypertension (Pregnancy Induced Hypertension, Pre-eclampsia) was seen in 17.24% which was high compared to that of the Spellacy et al10 study (12.9%) and was low compared to that of the Naushaba Rizwan et al9(31.2%).

The commonest presentation was vertex-vertex and the commonest mode of delivery was normal delivery (61.2%). The study conducted by Chittacharoen11 showed that caesarean section (69.23%) was the commonest mode of delivery andAmiben V. Gajera et al12 show commonest mode of delivery was vaginal (56%).

There was no maternal mortality in our study.

The incidence of having a baby with low birth weight (of less than 2500 gms) was 85.9%%; however, Bangal et al13 showed an incidence of 82%.In the present study perinatal mortality in the form of neonatal deaths and intrauterine deaths was 12.5%. Sulthan et al14 reported a perinatal mortality of 11% and Amiben V. Gajera et al12 reported a perinatal mortality 17%.Perinatal morbidity which required admission in neonatal unit was 36.8% was higher than Amiben V. Gajera et al12 was26.5%. Majority of these babies were preterm babies and had complications like IUGR, birth asphyxia and respiratory distress syndrome.

V. Conclusion:

Traditionally multiple pregnancies are regarded to be unfavorable, probably due to the poor perinatal outcome, increased maternal mortality and morbidity, long term developmental issues and the expensive treatment involved.

The knowledge of maternal and fetal complications helps in better surveillance, and in prevention of the morbidity and adverse outcome. Hence the need for better obstetric care, neonatalcare, healthservices to get a better fruitful outcome.

Most of the complications in multiple gestations are preventable. High risk units in the obstetric ward and well developed NICU set up would reduce the maternal, perinatal morbidity and mortality.

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