



## MULTI FETAL GESTATION- MATERNAL AND NEONATAL OUTCOME.

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**ABSTRACT**

**Background-** Advances in reproductive technology has increased the frequency of twinning. This study is carried out to assess the antenatal complications and to analyse the factors responsible for greater neonatal loss and to take steps to minimise the antenatal and postnatal complications. **Material and Methods -** A Prospective observational study was conducted on all antenatal women admitted and delivered with multifetal gestation during 12 months duration at Atal Bihari Vajpayee government medical college, Vidisha. All these women were evaluated on the basis of a predesigned performa with history taking and examination and investigations. **Result-** During the study period total number of deliveries were 6011 and 56 cases with multifetal gestation. 92.04% babies were Low birth weight. Preterm labour was the most common complication during labour and anaemia was the most common complication during pregnancy. **Conclusion-** With continuous increase in multifetal pregnancies owing to Artificial reproductive therapy better understanding of maternal and perinatal outcome shall be emphasized.

**KEYWORDS :** Twins, multifetal pregnancy, multiple pregnancy, maternal outcome, neonatal complications.

**INTRODUCTION**

The existence of mathematical relationship between the various order of multiple births were first stated by Hellin in 1895, when he claimed that twins occurred once in 80 birth, triplets once in 802 and quadruplets once in 803. (1) Between 1980 and 2005, the twinning rate rose from 18.9 to 32.1 per 1000 live births. (2) Over the same period the number of live birth from twin deliveries rose nearly 50% and the number of higher order multiple births increased more than 400%. (3) Rate of monozygotic twins is relatively constant i.e. 5.5/100 throughout the world, while the incidence of dizygotic twins range from 4-50/1000. Conjoint twin is rare with incidence of 1.3 per 1,00,000 live births.

Recently, rate have increased because of advances in reproductive technology offsetting the naturally occurring rate decline and delayed child bearing. Centre for Disease Control and prevention (CDC) defines more narrowly as any procedure that entails the handling of both eggs and sperm or of embryos for the purpose of establishing a pregnancy, more are the chances of multiple pregnancy.

The increase in multiple births increases the rate of maternal morbidity and perinatal mortality. The main causes of maternal morbidity are preeclampsia, anaemia, sepsis and post-partum bleeding. The main causes of perinatal mortality are prematurity, congenital defects malpresentations, placental insufficiency and dramatic deliveries. Therefore understanding of twinning phenomenon is needed to improve perinatal outcome of this high risk pregnancy. Several efforts are made to unify all types of contributions on twins into a new branch known as Gamellology (1). The clinical management of these miracles of nature include better antepartum and intrapartum care, prevention of preterm birth, usefulness of ultrasound for early and accurate diagnosis, better management of labour complications of twins, unique requirements of Postpartum period of mother and newborn. The body will change in twins the same way as any expectant mother but the discomforts of pregnancy will be more due to greater need of two developing babies.

According to Guttamacher, Spellacy the frequency of anaemia is increased in multiple pregnancy to approximately two to four times more than singleton pregnancy. (4) According to Kovacs et al. hypertensive disorders complicate twins three times more than singleton. (5) According to Newton ER-1984, Cetrulo-1980 polyhydraminos is found in approximately 12% of twin pregnancies. (6) Babies born from multiple birth pregnancies are more likely to result in premature birth. 51% of twins and 91% of triplets are born preterm compared to 9.4% in singleton pregnancy. The preterm birth results in lower birth weight compared to singleton. (7) The incidence of PROM in multiple gestation is two times that of singleton pregnancies. According to Jacob and Bhargava incidence of PPH was about 2.7% in multiple pregnancy compared to 1.1% in singleton

pregnancies. Spontaneous abortion also occur very commonly in multiple pregnancy and prematurity is the most common problem associated with most of the twins. Among twins 13% of infants will have birth weight less than 10th percentile by 35 to 36 weeks. The twin fetal growth pattern is same as that in singletons up to 30 weeks of gestation, after this period the rate of fetal growth deviates from the rate curve for singletons. Once the diagnosis of Twin gestation and type of placentation is made the effort of obstetrician must be directed towards prevention of preterm birth, evaluation of fetal growth and determination of best mode of delivery.

The conception, gestation and labour of plural pregnancy is certainly a challenge. The outcome of which is determined by masterly intervention in antepartum, intrapartum and postpartum period. This study is carried out to assess the antenatal complications and to analyse the factors responsible for greater neonatal loss and to take steps to minimise the antenatal and postnatal complications.

**OBJECTIVE OF THE STUDY**

To study the maternal and neonatal outcome associated with multifetal gestation.

**METHODS**

Type of study- Prospective observational study.

Duration of study- 12 months.

Time period- 1st March 2019 to 29th February 2020.

Place of study- Atal Bihari Vajpayee Government Medical College, Vidisha.

All antenatal admitted and delivered with multifetal gestation during the study period at Atal Bihari Vajpayee Government Medical College, Vidisha. Data is collected and entered using a predesigned performa.

Detailed history was taken and recorded. History regarding months of amenorrhea, gestational age at presentation, menstrual history, family history of multiple pregnancy, history of infertility treatment and past obstetric history was noted. General and obstetric examination was done.

For each patient routine blood and urine investigations were done. USG were done. Special investigations were done in high risk cases.

Most of the patients had spontaneous onset of labour and delivered virginally. Others had caesarean section and for them intra and post-operative findings were noted. Patients were watched carefully for post-partum haemorrhage and weight of babies were noted. Mothers were motivated for breast feeding and having a good diet.

Mother and neonate were followed till discharge from the hospital. Any maternal morbidity and fetal outcome like stillbirth, neodeath were noted.

All women were advised for contraception method. Patients were discharged from hospital in good physical condition with advice regarding the care of babies and regular check-up.

## RESULTS

During the study period total number of deliveries were 6011 and 56 cases with multifetal gestation. There were 55 twin delivery, one triplet delivery and one conjoint twin delivery. (Table 1)

Most of the cases had vaginal delivery 66.1% because of prematurity, multiparity and good obstetric history. Incidence of LSCS was 33.9%. (Table 2)

Most common complication during pregnancy were anemia (30.3%), hypertensive disorders (21.4%), PROM (16.1%) and abruptio placentae (8.9%). During labour preterm labour (44.64%) is the most common followed by PPH (16.1%). (Table 3)

92.04% babies were Low birth weight babies (birth weight < 2.5kg). (Table 4)

The main factor responsible for Low birth weight (92.04%) were prematurity and IUGR. Prematurity incidence was 36.3% and IUGR affected 38.1% cases. (Table 5)

Total perinatal mortality = 16 (14%). (Table 6)

## DISCUSSION

Incidence of LSCS is less in our study (33.9%) when compared with Chervanek and colleagues who reported incidence of LSCS as 35% and Thompson et al as high as 45%.

Similar to our study with 30.3% incidence of anemia, various authors have reported incidence of anemia in twins as 40% in study by Spellacy and 34.5% by Tempe and Batra.

The incidence of hypertensive disorder, as reported by other authors is 31.9% by Jacob and Bhargava and 27% by Joseph. In our study the incidence was 21.4%.

During labour, the most important complication in our study was preterm labour found in 44.64% cases. Morale WJ also reported incidence as high as 60%.

About 92.04% babies are low birth weight in our study. This incidence is very high in our study compared to Power from Europe reported incidence of LBW as 43-63%.

Similar to our study with incidence of prematurity as 36.3%, Tempe and Batra found incidence as 36.84%.

Still birth incidence was 6.2%. Bhoraskar reported incidence of SB as 8.7%.

Asphyxia was an important complication accounting for 8.84% in our study, 20.75% in Modi and Ganesh and 13.6% by Dalal and Nayak.

A total of 4 babies (3.5%) had congenital malformation in our study. Modi and Ganesh reported 6.52% cases and Jacob and Bhargava reported 1.3% cases.

## CONCLUSION

Thus this study was designed with the aim to know the occurrence and outcome of multifetal gestation in patients attending Atal Bihari Vajpayee government medical college, Vidisha.

The foundation of successful an safe obstetrics rests foremost upon prevention rather than upon operative skill. Many of the serious complications of pregnancy and most of the hazard of labour can be prevented or their dangerous complications obviated, if they are anticipated.

The rate of various complications and rate of mortality can be reduced with proper counselling, proper antenatal care and timely diagnosis. These are the various pillars which need to be strengthened in our population to reduce the occurrence of complications.

## DECLARATIONS

**Funding:** none

**Conflict of interest:** none declared

**Ethical approval:** not required

**Table 1: Incidence of patients with multifetal gestation**

	6011	100%
Total number of deliveries	6011	100%
Number of patients with multifetal gestation	56	0.93%
Number of twins	55	0.91%
Number of triplets	1	0.017%
Conjoint twin	1	0.017%

**Table 2: Distribution of cases according to mode of delivery**

Type of delivery	Number of cases	Percentage %
Vaginal delivery	37	66.1
LSCS	19	33.9
Total	56	100

**Table 3: Distribution according to maternal complications**

Complication	Number of cases	Percentage %
Hypertensive disorder	12	21.4
Anemia	17	30.3
Premature Rupture Of Membrane	9	16.1
Placenta previa	2	3.6
Abruptio placentae	5	8.9
Poly/ oligohydraminos	1	1.7
Preterm labour	25	44.64
Post-partum haemorrhage	9	16.1

**Table 4- Distribution according to weight of babies**

Weight of babies (in kg)	Number of cases	Percentage %
<1.0	17	15.04
1.1-2.0	73	64.6
2.1-2.5	14	12.38
>2.5	9	7.96
Total	113	100

**Table 5- Distribution according to fetal complications**

Complication	Number of cases	Percentage %
Prematurity	41	36.3
Intra uterine growth retardation	43	38.1
Still birth	7	6.2
Congenital malformation	4	3.5
Birth asphyxia	10	8.84
Hyaline membrane disease	18	15.9
Septicaemia	13	11.5
Abortion	9	7.9

**Table 6- Analysis of perinatal mortality**

Perinatal outcome	Number of cases	Percentage %
Total number of birth	113	100
Total number of stillbirth	7	6.2
Total number of neonatal death	9	7.9

## REFERENCES

- Jewell SE, Yip R. Increasing trends in plural births in US - obstet. Gynecol 1995; 85: 229-232.
- Cunnighammetal. William obstetric. McGraw hill 23rd ed:859.
- Zach, Terence, Arun K. Pramanik, Susannah P. Ford (2007-10-02) "multiple birth" web MD revived 2008-09-29.
- Spellacy WN, Handler A, Ferre CD. A case control study of 1253 twin pregnancies from 1982-1987 Prenatal Data Base. Obstet Gynecol. 1990; 75(2): 168-171.
- Kovacs B, Kirschbaum T, Paul R. Twin Complications, Antenatal Care and Complications. Obstetgynaecol 1989;74:313-317.
- Bunner JP, Anderson TL, Resemund RL. Placental Pathophysiology of the Twin OligohydramniosPolyhydramnios sequence and the Twin-Twin Transfusion Syndrome Placenta. Jan. 1998;19:81-86.
- Alexander G, Kogan M, Martin J and Papiernik E. What are the fetal growth rate patterns of singletons, twin and triplets in the US? Clinical obstetrics and gynaecology. 1998 ;41(1): 114-125.