



A STUDY ON FETO-MATERNAL OUTCOME IN TWIN PREGNANCY

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ABSTRACT Multiple births are much more common today than they were in the past. Throughout the world, the prevalence of twin births varies from approximately 2-20/1000 birth. This delayed childbearing has resulted in an increased maternal age at conception.

Methods: Present study is a randomized prospective study of 80 cases of twin pregnancies admitted at our institute from Jun, 2016 to may, 2018 including all emergency as well as registered cases. Patients included in this study were from various socio-economic classes and they were having a different level of education. In all cases a detailed history was taken, all routine and specific investigations were done.

Results: In this prospective study we observed 80 cases of twin pregnancies. In this study most of the patients (42.5%) delivered at 33-36 weeks of gestation. 3.7% of patients had abortion at an early gestation. Majority of the patients delivered vaginally (57.5%), followed by LSCS (Lower Segment Caesarean Section) (42.5%). In this study low birth weight babies were the most common (114 babies) to the extent of 71.2%. We had 21.2% (34) extremely low birth weight babies. There were 7 neonatal deaths (4.4%). We observed the highest incidence of twins in the age group of 20-29 years. The least were below the age of 20 years. As for the incidence of twin pregnancy with regards to the parity, we came across the highest incidence in multi para, the least was being in primi gravida.

Conclusions: 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.

KEYWORDS : Twins, Ovulation induction, Preterm, Low birth weight baby, Perinatal morbidity, Perinatal mortality

INTRODUCTION

Twin pregnancy is becoming a problem of increasing dimensions worldwide with the dramatic increase of its incidence mostly attributable to assisted reproductive technologies (ARTS). The reported incidence ranges from 0.01% to 0.07% of all pregnancies. 1. Throughout the world, the prevalence of twin births varies from approximately 2-20/1000 births. 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. 2, 3 Hence twin pregnancies should be considered as high risk pregnancies. Vigilant obstetric care not only decreases the maternal morbidity and mortality but also improves the fetal outcome.

The outstanding increase in multiple gestation rates can be explained by the social shift in women's attitude regarding child bearing which has resulted in more and more women choosing to postpone child bearing in favour of work and career commitments. This delayed childbearing has resulted in an increased maternal age at conception, which in turn has led to infertility treatment such as ovulation induction, in vitro fertilization and intra cytoplasmic sperm injection as one of the predisposing factors of twin gestation, since fertility decreases with age. 4,5

The aim and objectives of the study was to study the epidemiology, maternal fetal complications and to analyse perinatal morbidity and mortality associated with twin gestation in our institute during Jun, 2016 to may, 2018 and to emphasize the role of regular antenatal check up to improve the maternal and perinatal outcome in twin pregnancies.

METHODS

Present study is a randomized prospective study of 80 cases of twin pregnancies admitted at our institute from Jun, 2016 to may, 2018 including all emergency as well as registered cases. This study was conducted as a part of post-graduate dissertation at VSSIMSAR, Burla. Patients included in this study were from various socio-economic classes and they were having a different level of education. In all cases a detailed history was taken, all routine and specific investigations were done. Hospitalization was done whenever it was required to prevent and to treat complications. All these patients were delivered in our institute under close observation. All stages of labour

were carefully managed in the presence of team of obstetrician. All babies were examined by the neonatologist and NICU care was given as and when it was required.

RESULTS

In this prospective study we observed 80 cases of twin pregnancies. Triplets and quadruplets were not included as the numbers were small. We had an incidence of twin pregnancy to the extent of 11/1000 live births.

We noticed that the incidence of twin pregnancy was highest in the age group of 20-29 years followed by 30-35 years which were 77.5% and 18.7% respectively. As for the incidence of twin pregnancy with regards to the parity, we came across the highest incidence in multi para, the least was being in primi gravida (Table 1).

Table 1: Demographic and gestation at delivery.

Demographic & Obstetric features	Number	Percentage	Mean	SD
Age in Years				
<20	3	3.7		
20-29	62	77.5		
30-35	15	18.7		
Parity				
Primipara	32	40		
Multipara	48	60		
Weeks of gestation at delivery				
<28	6	7.5		
29-32	15	18.7		
33-36	34	42.5		
37-42	25	31.2		
Height(cm)			152.3	6.2
Weight(Kg)			64.3	9.8

In the present study we noticed that maximum twin pregnancies were a result of spontaneous conception which was 71.5% followed by conceptions from ovulation induction (Table 2). Four patients gave positive family history of twins, however only two patients gave past history of the same.

Table 2: Influence on ovulation induction & heredity on twin gestation.

History	Cases	Percentage
Spontaneous	57	71.2
Ovulation Induction	17	21.2
Maternal History	4	5
Past Hystory	2	2.5

Table 3: Distribution of patients by fetal presentation.

Presentation	Number	Percentage
Vertex-Vertex	46	57.5
Vertex-Breech	18	22.5
Vertex-Tranverse	3	3.7
Breech-Vertex	1	1.2
Breech-Breech	5	6.2
Breech-Tranverse	1	1.2
Both Tranverse	2	2.5
Abortion	4	5

In this study most of the patients (42.5%) delivered at 33- 36 weeks of gestation. 5% of patients had abortion at an early gestation. Six women delivered at or before 28 weeks of gestation and only 31.2% had completed 37 weeks. We came across vertex-vertex as the most common presentation (57.5%) followed by vertex- breech presentation (22.5%), least was either breech-vertex or breech – transverse (Table 3). Majority of the patients delivered vaginally (57.5%), followed by LSCS (Lower Segment Caesarean Section) (42.5%) (Table 4). However we had one case in which the first twin was delivered vaginally and second twin had to be delivered by LSCS (Lower Segment Caesarean Section), as the patient had cord prolapse with very high presenting part. In majority of the cases indication for the LSCS was unfavourable presentation.

Table 4: Distribution of patients by their mode of delivery.

Mode of Delivery	No. of Patients	Percentage
Vaginal Delivery	46	57.5
LSCS	34	42.5

Table 5: Complications encountered by the mothers.

Complication	Number	Percentage
Anemia	32	40
Hypertensive (PIH&Pre-eclampsia)	16	20
Polyhydramnios	5	6.2
Postpartum Hemorrhage	6	7.5
Antepartum Hemorrhage	2	2.5
Preterm Labor(Spontaneous/Induced)	43	53.7
Gestational Diabetes	1	1.2
Abortion	3	3.7
Eclampsia	1	1.2
Oligohydramnios	3	3.7
No Complication	14	17.5

As for the maternal complications in twin pregnancies, we encountered preterm labour either spontaneous or induced/threatened preterm labour in 43 women. We noticed pre eclampsia among 16 women. However, only one patient had eclampsia. Anaemia was noticed in 32 women, 3.7% had abortion, 1 patient had gestational diabetes and there were 3 patients with oligohydramnios (Table 5).

Table 6: Perinatal neonatal complications.

Cases	Percentage
Premature Babies	70
Wt<1500gm	21.2
Wt >1500-2000gm	26.2
Wt >2000-2500gm	23.7
Wt>2500gm	7.5
Both IUD	3.7
Single Fetus Death	3.1
Fetus Compression	0.6
NICU Admissions	26.8
Neonatal Death	4.4
Foot Deformities	1.8

The study revealed that the twins born were mostly low birth weight babies (114 babies) to the extent of 71.2%. We had 26.2% (34)

extremely low birth weight babies. There were 7 neonatal deaths (4.4%), single fetus demise in 5 (3.1%) and a single case of fetus compresses (Table No: 6). Three cases of foot deformity were also noticed.

DISCUSSION

Probably due to the poor perinatal outcome, increased maternal mortality and morbidity, long term developmental issues and the expensive treatment involved, traditionally multiple pregnancies are regarded to be unfavourable. In the present study, we considered only twin pregnancies, the incidence of which was 11/1000 births. According to various studies conducted since the 1970s, the maternal twinning rate in India on an average is 9-16/1000 births.⁶ The main contributing factor for the twin rate in this study seems to be the referral of all high risk cases to our hospital, it being a tertiary care centre.

The patients who conceived by ovulation induction or by in vitro fertilization belonged to higher socio-economic status and could afford expensive medical treatment in private sectors. This could be the reason that the number of patients with spontaneous twinning was higher in our government setup compared to the ovulation induction. However, 21.2 % of the twins were as result of ovulation induction. As a matter of fact all were induced by Clomiphene Citrate by the local practitioners. These were the patients who belong to lower socio-economic condition and had been registered in our setup.

The highest incidence of twins in the age group of 20-29 years were found. Our observation of the twin pregnancies showed that the majority of them were registered, had regular check-up, took adequate ultrasounds and was compliant to all the advice given to them. In spite of good ante-natal care, 68.7 % of the women delivered before 36 weeks of gestation, 7.5% delivered before 28 weeks and 18.7% delivered at 29 – 32 weeks of gestation. The incidence of preterm delivery was higher (74%) in the current study as compared to Chowdhury et al (44%). However, the incidence reported by Bangal et al was much higher (88%).^{7,8}

The incidence of anaemia was 40% in our study, Spellacy et al found anaemia in 9.4% and Chowdhury et al in 26% of twin pregnancies. There is a considerable improvement in the prenatal care in India which is evidenced by a much lesser incidence of anaemia than it was in the past.⁹ Hypertension (Pregnancy Induced Hypertension, Pre eclampsia) was seen in 20% which was high compared to that of the Spellacy et al study (12.9%). Post-partum hemorrhage (PPH) occurred in 7.5% which is comparable to the incidence of PPH in developed countries; this improvement in the PPH incidence is seen in India after the introduction of newer prostaglandins.

We came across other complication like polyhydramnios (6.2%), oligohydramnios (3.7%) and APH (Ante partum Hemorrhage) (2.5%). No complications were seen in 17.5 % of cases. The commonest presentation was vertex-vertex and the commonest mode of delivery was normal delivery. The study conducted by Chittacharoen showed that caesarean section was the commonest mode of delivery.^{10, 11}

There was no maternal mortality in our study. More than half of the babies were delivered preterm, which was higher than Hashimoto et al and other series (29%,54%)¹⁰. This higher incidence could be due to a higher rate of preterm termination, as we had 20% of preeclampsia patients and 3.7% of both twin IUD. There was also a significant number of unregistered cases. The incidence of having a baby with low birth weight of less than 2500 gms was 71.2%; however, Bangal et al showed an incidence of 82%. In the present study perinatal mortality in the form of neonatal deaths and intrauterine deaths was 11.2%. Sulthan et al reported a perinatal mortality of 11%. Majority of these babies were preterm babies and had complications like IUGR, birth asphyxia and septicemia.

CONCLUSIONS

The twin pregnancy can be effectively managed in a tertiary health care facility to optimise maternal and fetal care for improving maternal and perinatal outcome. Most of the complications in multiple gestations are preventable. The major factors influencing the perinatal mortality in twin pregnancy are the consequences of the high rate of prematurity.

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Compliance with Ethical requirements and conflict of interest:

Ethical clearance for doing this study was obtained from the institutional Ethics Committee. The authors declared that they have no conflict of interest.

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