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Research Article

Study of obstetric and fetal outcome of twin pregnancy in a tertiary care centre

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ABSTRACT

Background: The past two decades have witnessed a sharp rise in the incidence of twin and higher order gestations. The progress and developments in assisted reproductive technology, availability and widespread use of ovulation inducing drugs and delayed childbearing are thought to be the causes responsible for the rise. Twin pregnancy is associated with increased maternal and perinatal morbidity and mortality as well as healthcare costs. Maternal complications like hypertensive disorders, anemia, gestational diabetes mellitus (GDM), preterm labour, preterm premature rupture of membranes (PPROM) and placental abruption increases. It is also responsible for repeated antenatal admissions, longer hospital stay, blood transfusions and increase in operative vaginal or cesarean delivery, post-partum hemorrhage and Hysterectomy. Twins have an increased risk of intraventricular hemorrhage, sepsis, necrotizing enterocolitis, respiratory distress syndrome and neonatal death. The objective of the study was to study the maternal and fetal outcome of twin pregnancy.

Methods: Retrospective analytical review of all twin deliveries at the teaching hospital medical college of Central India, over a period of 3 years between January 2010 and December 2012. There were 55 twin deliveries, data analysis regarding maternal age, parity, presentation, gestational age at delivery, obstetric complication mode of delivery, birth weights, and perinatal morbidity & mortality was analyzed.

Results: Majority of patients 44 (80%) were in age group of 20-30 years. 55% patients were booked and 62% were from urban area. 18 (32%) patients could reach beyond 37 weeks, there were 21 (38%) cases between 34 to 37 weeks and 16 (29%) between 30 to 34 weeks of gestation. Preterm delivery was the commonest complication occurring in 67% of the cases. Cephalic presentation of both the babies occurred in 36% of the cases. 50% of the twins needed admission to NICU for various indications like prematurity, birth asphyxia, low birth weight, meconium staining of liquor & delivery by caesarean section. In our study among the 55 twin births there were 16 (29 %) perinatal deaths and one maternal mortality.

Conclusions: Twin pregnancies are high risk pregnancies with more maternal and fetal complications. The use of antenatal care services, identification and anticipation of complications, intrapartum management and good NICU facilities will help to improve maternal and neonatal outcome in twin pregnancies.

Keywords: Twin pregnancy, Maternal and fetal outcome, Assisted reproductive technique

INTRODUCTION

The past two decades have witnessed a sharp rise in the incidence of twin and higher order gestations. The progress and developments in assisted reproductive technology, availability and widespread use of ovulation inducing drugs and delayed childbearing are thought to be the causes responsible for the rise.¹ Twin pregnancy is associated with increased maternal and perinatal morbidity and mortality as well as healthcare costs.²

Twin pregnancy imposes greater demand on maternal physiological system. There is an increase in occurrence of many complications like hypertensive disorders, anemia, gestational diabetes mellitus (GDM), preterm labour, preterm premature rupture of membranes (PPROM), and placental abruption. It is also responsible for repeated antenatal admissions, longer hospital stay, and blood transfusions. It is associated with increase in operative vaginal or cesarean delivery, post-partum hemorrhage and Hysterectomy. It eventually contributes to the three major causes of maternal mortality: post-partum hemorrhage, venous thromboembolism and hypertensive disorders.³

Twins have an increased risk of intrauterine fetal demise, twin transfusion syndrome (TTTS), congenital malformations, intraventricular hemorrhage, sepsis, necrotizing enterocolitis, respiratory distress syndrome and neonatal death. Surviving infants of preterm multi fetal have higher rates of developmental anomalies.⁴

The aim and objectives of the study was to study the outcome of twin pregnancy in terms of:

1. Average duration of gestation
2. Mode of delivery
3. Obstetric complications
4. Neonatal outcome

METHODS

The study was a retrospective analytical review of all twin deliveries at the teaching hospital medical college of Central India, over a period of 3 years between January 2010 and December 2012. Data was retrieved from patient's case-notes and supplemented by information from the labour ward, postnatal ward, theatre, and medical record department.

During the study period, there were 55 twin deliveries. Women with pregnancies less than 28 weeks of gestation were excluded from the study. A thorough evaluation of twin pregnancies was done regarding maternal age, parity, presentation, gestational age at delivery, obstetric complication mode of delivery, birth weights, and perinatal morbidity & mortality.

RESULTS

Majority of patients 44 (80%) were in age group of 20-30 years. 55% patients were booked and 62% were from urban area (Table 1). Period of gestation was as follows: 18 (32%) patients could reach beyond 37 weeks, there were 21 (38%) cases between 34 to 37 weeks and 16 (29%) between 30 to 34 weeks of gestation.

Table 1: Demographic data of patients of twin pregnancy.

		No of patients n=55	Percentage
Age	20-24 yrs.	26	46
	25-30 yrs.	18	32
	31-36 yrs.	11	20
Parity	Primi	26	46
	multi	29	55
ANC status	Booked	30	55
	Unbooked	25	45
Rural		20	38
Urban		35	62

Table 2: Maternal morbidities in twin pregnancy.

Morbidity	Total	Percentage
Preterm labour	39	67
Anaemia	17	30
Hypertensive disorders in pregnancy	15	28
HELLP syndrome	04	6
Polyhydramnios	04	6
PROM	09	16
APH	02	4
Fetal distress	02	8

Table 3: Obstetric parameters: Presentation.

Presentation	Number N=55	Percentage
Vertex/ vertex	20	36
Vertex/breech	14	25
Breech/vertex	07	13
Breech/breech	11	20
Transverse/vertex	02	04
Vertex/transverse	01	02

Preterm delivery was the commonest complication occurring in 67% of the cases. This was followed by anaemia 30% and hypertensive disorders in pregnancy (Pregnancy-induced hypertension, pre-eclampsia, and eclampsia) 28%. Other morbidities were HELLP syndrome 6%, polyhydramnios 6%, APH 4%, PROM 16%, and fetal distress 8%. 2 patients had postpartum hemorrhage because of placenta previa needing internal iliac artery ligation followed by obstetric hysterectomy.

Only one maternal mortality was there because of PIH, HELLP syndrome leading to DIC.

Cephalic presentation of both the babies occurred in 36% of the cases while vertex -breech presentation was seen in 25% (Table 3). The caesarean section rate for twin delivery was 45% (Table 4).

Table 4: Obstetric parameters: Mode of delivery.

Mode of delivery	Number N=55	Percentage
Preterm Vaginal	16	29
Full-term Vaginal	14	25
Cesarean Section Elective	08	15
Cesarean Section Emergency	16	29
First Vaginal, Second section	01	02

The commonest indication for caesarean section was assisted reproductive technology conception and fetal malpresentations.

The mean birth weight of the first baby was 1916.36 gm while the mean birth weight of the second baby was 1685.94 gm.

Nearly 50% of the twins needed admission to NICU for various indications like prematurity, birth asphyxia, low birth weight, meconium staining of liquor & delivery by caesarean section (Table 5).

Table 5: Perinatal morbidity.

Causes	Twin 1	Twin 2	Total
Low birth weight	22	24	46
Respiratory distress syndrome	09	08	17
Septicemia	04	06	10
Transient tachypnea of new-born	04	05	09
Jaundice	10	14	24
Anemia	08	10	18

DISCUSSION

In our study the overall rate of twin gestation was 18.03 per 1,000 deliveries seen in comparison with twin incidence quoted by different studies ranging from 11.4 to 19.37.^{5,6} Women in the age-group of 20-30 years were the majority, accounting for 80% of total cases studied. Same findings were seen in the studies of Sholapurkar and Mitra.^{7,8} Preterm delivery was the commonest obstetric complication observed in the study as was the case in other studies carried out it is the most important factor contributing to the increasing perinatal mortality and morbidity in multiple pregnancies.^{2,9}

Cephalic presentation of both the babies occurred in 36% of the cases while vertex -breech presentation was seen in 25%.

The caesarean section rate for twin delivery was 45%. Study by Chaudhary reported rate of LSCS in 54%, 37% of women had caesarean section in the study done by Wanjari SA.^{6,10} Important indications for caesarean section were assisted reproductive technology conception and fetal malpresentations, premature rupture of membranes, hypertensive disorders of pregnancy and prior scar.

The mean birth weight of the first baby was 1916.36 gm while the mean birth weight of the second baby was 1685.94 gm. same results were seen by Chaudhary.⁶ In our study, neonates in twin pregnancies, yielding a boy to girl ratio was 1:1. which is same as seen by Yamini S Patil other studies showed the number of male newborn was smaller in twin pregnancies.¹¹

In our study among the 55 twin births (110 twins), there were 6 (10%) stillbirths and 10 (18%) early neonatal deaths i.e. 16 (29 %) perinatal deaths. The perinatal mortality observed by Chaudhary was 32.5%. Wanjari reported rate of 18%.^{6,10} Perinatal mortality is an important indicator of maternal care; it reflects the quality of obstetric and pediatric care available. In our study 45% patients were unbooked and 38% were from rural area, which emphasizes the need of early diagnosis and good antenatal care to improve the maternal and neonatal outcome.

CONCLUSIONS

Twin pregnancies are high risk pregnancies with more obstetrical complications compared to singleton pregnancies. The use of antenatal care services, identification and anticipation of complications, intrapartum management and good NICU facilities will help to improve maternal and neonatal outcome in twin pregnancies. Preterm delivery is the most common obstetric complication. Managing twin pregnancy is still a big challenge to the Obstetrician.

Limitations

Though it is a tertiary care medical centre the neonates who were transferred out were lost to follow up.

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