A PROSPECTIVE STUDY OF TWIN DELIVERIES AND ITS PERINATAL OUTCOME IN A DISTRICT HOSPITAL

Sapna.I. S[1] Bhavya Jha[2]
[1]Professor, [2]Postgraduate, Dept. of OBG, J.J.M.M.C, Davangere
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Aims & Objectives:
The incidence of twins has increased due to widespread use of advanced ART techniques. There is a considerable perinatal/maternal mortality and morbidity associated, thus, antenatal management and safe deliveries of twin pregnancy are important. Better use of infertility modalities, early diagnosis, and prevention of preterm birth, close fetal surveillance, and atraumatic labour can improve perinatal outcome in the gestation.
This study is aimed at providing data on twin deliveries in Chigateri district hospital, Davangere, for a period of one year (January to December 2013) and an insight on their fetal outcomes, in relation to their mode of delivery, gestational age and other obstetric complications.
Methods: A 1 year prospective study of twin deliveries was conducted. The perinatal outcome in **78** set of twins was compared with that of **156** singleton controls. Inclusion criteria were twin delivery, gestational age and admission compared with no admission to a NICU. Variables considered were fetal gender, obstetric & labour complication, mode of delivery& newborn status.
Results: In our study
The current incidence was 78 per 7025 singleton deliveries
(1 per 100) of which 61 (78.20%)delivered vaginally and 17 underwent lSCS. 41 cases were preterm and 37 were term
13 cases had associated Preeclampsia,
Low birth weight babies were 22 and 20 very low birth weights. While 23 babies had RDS &11 babies suffered birth asphyxia
NICU admissions were 60of which 31babies survived
Conclusion: This study indicated that twin pregnancy being a high risk condition entails greater neonatal complications compared to singleton pregnancy. Thus it is recommended to have a greater prenatal care &hospital deliveries
Keyword: Twin pregnancy, perinatal outcome, Preterm,

Introduction:

Perinatal morbidity and mortality rates are higher in twins compared to singletons.
For instance, a need for resuscitation, intrauterine growth restriction, preterm delivery, congenital malformations and perinatal deaths are all known to be commoner in twins than in singletons. In addition, morbidities such as feto-fetal transfusion syndrome (FFTS), intrapair birth weight discordance and conjoined twins are peculiar to twins.

Incidence:

The incidence of twin delivery shows considerable ethnic and geographic variations.

* African countries - 20 per 1000 deliveries.
* Asian countries- 6 per 1000 deliveries.
* Europe and America- 11 per 1000 deliveries.
* From the 1980s, there has been a worldwide increase in the rates of twinning attributed to increasing maternal age and use of fertility therapies.

Materials and methods:

* This descriptive prospective study was conducted at Chigateri Government Hospital (CGH), attached to JJM Medical College, Davangere. The hospital has a

Dr. Sapna.I.S
Professor, Dept. of OBG,
J.J.M.M.C, Davangere
Mobile: 9448727303
e-mail:sapna.dvg@gmail.com

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large maternity unit with an average of 7,000 deliveries annually with two government (1 women & children hospital & 1 district tertiary hospital) & one private hospitals attached to it

* During the one-year study period, 1st January, 2013 to 31st December, 2013 all twin babies delivered at CGH were weighed naked, by a trained nursing staff, within the first hour after birth, using a mechanical Way master weighing scale. The weights and sexes of the twin (study) babies were recorded according to the month and year of delivery. Gestational age was determined by maternal dates and by early trimester scans and if a discrepancy of more than one week was observed the later was used. The Apgar scores were determined by the attending paediatrician present at the delivery using the Apgar Scoring System.

* Perinatal outcome measures of interest included mode of delivery, stillbirth rate and the need for admission into the Neonatal intensive care Unit (NICU). Indication(s) for such admission was determined by the attending paediatrician. For each set of twin babies delivered, two cases of singleton babies delivered consecutively following the twin delivery were recruited as controls.

Similar perinatal outcome measures were documented for the control babies and twin (study) babies. Data on total number of deliveries was obtained from the relevant delivery registers of the hospital. Maternal age and parity were also documented.

Results:

* Twin delivery occurred in 78 of 7025 (1.11%) deliveries for an incidence of 11.1 per 1000 deliveries, corresponding to 1 in 90 births.

* Sex ratio was 0.94:1 in favour of males (F:M =33: 35)

* 61 cases (78.20%) delivered vaginally and 17 underwent lscs (21%) Table 1

* 41 cases were preterm (52.5%) and 37 were term (47.4%

Table 1:Statistics of Twins in one year

Total no.of singleton pregnancies	7025	
Total no.of twins	78	%
Male babies	80	51.2
Female babies	76	48.7
LSCS	17	21.7
Vaginal delivery	61	78.2
Term	37	47.4
Preterm	41	52.5
Total no.of NICU admission	60	38.4
Survived	31	51
Died	29	48.3

Table 2:**Causes for NICU admission**

Causes for NICU admission	Number	
Preterm	32 twins	52.5%
VLBW	20 babies	12.8%
LBW	22 babies	14.1 %
RDS	23 babies	14.1%
Birth asphyxia	11 babies	07 %
MAS	4 babies	4.48%
HMD	3 babies	1.9 %
EPJ	1baby	0.6%

Prematurity and LBW are co-variant factors, the incidence of intrauterine growth restriction (IUGR) was three times higher in twins than in singletons Table 2. The reason for IUGR in twin gestations may be found in the study by Guaschino et al which showed that 33% of twin pregnancies was associated with IUGR predisposing factors such as inadequate placentation, unequal sharing of placental mass, chronic malnutrition and anaemia.

Table 3: Twin Pregnancy with obstetric complications

Associated with obstetric complications	Numbers	Percentage
Pre-eclampsia (mild / severe)	13	16.6 %
Gestational Hypertension	8	10.2%
Antepartum Eclampsia	1	1.2%
Imminent Eclampsia	2	2.5 %
Anemia	7	8.9%

Discussion:

*The incidence of delivery of a low birth weight (LBW) as well as a preterm infant was significantly higher in twin compared to singleton pregnancies.

*This may be explained by the fact that sharing one uterus by two foetuses represents a struggle for space so that as pregnancy advances, the uterus becomes a crowded environment apart from the problem of placentation and sharing of nutrients.

*These two mechanisms lead to initiation of and delivery of preterm/low birthweight infants.

•Stretch of the uterine musculature especially by twins plays a role in eliciting uterine contractions of parturition.

•The pituitary gland of the foetus also secretes oxytocin (greater in twins) that could possibly play a role in exciting the uterus initiating labour.

•Prematurity was a major factor influencing the morbidity and mortality in twin pregnancies, largely accounting for a greater percentage of admission into the NICU of the hospital.
•Prematurity and LBW are co-variant factors, the incidence of intrauterine growth restriction (IUGR) was three times higher in twins than in singletons.
•The reason for IUGR in twin gestations may be found in the study by Guaschino et al which showed that 33% of twin pregnancies was associated with IUGR predisposing factors such as inadequate placentation, unequal sharing of placental mass, chronic malnutrition and anaemia.

Conclusion:

• In conclusion, perinatal outcome measures such as prematurity, low birthweight and birth asphyxia were significantly more adversely affected in twin than in singleton pregnancies.
• It is recommended that all twin pregnancies should be supervised in health institutions with facilities for the care of the preterm infant.
• Personnel skilled in neonatal resuscitation should be present at all twin deliveries.

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