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Original Research Article

A clinical study on maternal and fetal outcome in twin pregnancy at KIMS hospital, Hubli, Karnataka, India

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ABSTRACT

Background: Development of two fetus inside the uterus is called twin gestation. Twin gestation is considered as high-risk pregnancy due to associated high maternal morbidity and perinatal mortality in comparison with singleton pregnancies. The past two decades have witnessed a sharp rise in the incidence of twin and higher order gestations.

Methods: Prospective analytical study of all women admitted in Obstetrics and Gynaecology department with twin pregnancy at KIMS Hubli, over a period of one year between November 2016 and October 2017.

Results: There were 11,127 deliveries occurred in study period of one year, out of which there were 174 twin deliveries accounting for 1.56% of prevalence rate. Anemia was the commonest complication occurring in 160 cases contributing around 90%. Preterm delivery was the second complication occurring in 124 cases accounting for 71%. Among 348 babies, there were 40 perinatal death accounting 11%. There was no maternal death.

Conclusions: Twin pregnancy is a high-risk condition, should have mandatory hospital delivery. Early detection, proper treatment improves both maternal and neonatal outcome.

Keywords: Maternal and neonatal outcome, Preterm labour, Twin gestation, anemia

INTRODUCTION

Development of two fetus inside the uterus is called twin gestation. Mono chorionic multiples are at more than five times higher risk of pregnancy complications than dichorionic counterpart. First trimester scan between 11 and 14 weeks can be used reliably to assess gestational age, chorionicity, orientation and twin pregnancy complications. Serial fetal assessment between 16 and 24 weeks is needed for mono chorionic twins in order to identify fetal transfusion syndromes.¹

Twin gestation is considered as high-risk pregnancy due to associated high maternal morbidity and perinatal mortality in comparison with singleton pregnancies. 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.

Although twins account for only a small percentage of all live births, they are responsible for a disproportionate share of all the perinatal morbidity and mortality. Prematurity, growth restriction, congenital anomalies, twin-to-twin transfusion, birth asphyxia, and birth trauma are the problems faced by the multiples.

Neonatal intensive care unit (NICU) admission is required by one fourth of twins. In the presence of congenital anomalies in one fetus, the management decisions become complex because the fate of sibling fetuses are necessarily linked.

METHODS

Prospective analytical study of all women admitted in Obstetrics and Gynaecology department with twin pregnancy at KIMS HUBBALLI ,over a period of one year between November 1 2016 and October 31 2017. Complete history will be taken including the history of multiple pregnancy in the previous pregnancy or in the family and history of taking ovulation inducing drugs will be recorded.

Inclusion criteria

- All women admitted to the antenatal ward and labour room after clinical or ultrasound diagnosis of multiple gestation.
- Women with multiple gestation above 28 weeks of gestation

Exclusion criteria

- Patients coming to outpatient's department with multiple gestation.
- One or more fetuses delivered outside our hospital.

Routine investigations like hemoglobin percentage, urine for sugar, albumin, microscopy and blood group will be done for all patients. Special investigations like blood urea, serum creatinine, serum uric acid, blood sugar level, liver function tests, complete hemogram, fundoscopy, bleeding time, clotting time and urine culture will be done whenever necessary. Complications in the mother during antenatal period like hypertension, polyhydramnios will be noted.

Intrapartum fetal monitoring will be done by intermittent auscultation of the fetal heart sounds.

Outcome of pregnancy will be noted as either, preterm delivery, full term vaginal delivery, instrumental delivery or cesarean section. Indication for cesarean section shall be recorded. Incidence of post-partum haemorrhage, and type of placenta, will be noted.

RESULTS

Table 1: Demographic data.

	No of patients	%	
Age	<20years	37	21.2
	20-30years	124	71.2
	>30years	13	7.6
Parity	Primigravida	67	38.4
	Gravida 2	61	35.3
	Gravida 3	42	24.1
	Gravida 4	4	2.2
ANC status	Booked	26	15
	Un-booked	148	85

There were 11,127 deliveries occurred in study period of one year, out of which there were 174 twin deliveries accounting for 1.56% of prevalence rate (Table 1).

Majority of the patients were between 20-30 years. Out of 174 patients 67 patients were primigravida and 4 were gravida 4. Out of 67 patients in primigravida 46 patients taken treatment for infertility contributing 26% for total twin pregnancy.

Table 2: Presentation of both babies.

Presentation	No. of cases	Percentage
Vertex-vertex	122	70
Vertex-breech	16	9.2
Breech-vertex	22	12.7
Breech-breech	08	4.7
Vertex-transverse	02	1.2
Breech-transverse	00	00
Transverse-vertex	00	00
Transverse-breech	00	00
Transverse-transverse	01	0.5
Compound	03	1.72

Table 3: Obstetrics parameters; mode of delivery.

Mode of delivery	Number	%
Preterm vaginal	104	60
Full term vaginal	17	9.7
Cesarean section elective	06	3.4
Cesarean section emergency	45	25.8
First vaginal, second section	02	1.1

Preterm vaginal delivery was one among the most common complication contributing to 60% of the outcome of delivery. Cesarean section done in 51 cases in which 06 were elective cases. Two cases end up with doing section for second twin, in which both cases have second twin transverse lie.

Table 4: Indication for section.

Indication for section	Number (n=53)	Percentage
Previous LSCS	13	24.5
Fetal malpresentation	32	60.5
Oligo IUGR	2	3.7
PROM	6	11.3

First twin with breech presentation were found in 30 cases two cases had second twin transverse lie.

About 160 of the patients were anaemic, in which about 34 patients were severely anaemic contributing 20% of total anemia patients. Among 21 patients end up with atonic PPH all are managed medically with six patients put with paracervical clamps. Two twins had MCDA type of placenta rest all had DCDA type.

Table 5: Maternal morbidities in twin pregnancy.

Morbidity	Number (n=174)	Percentage
Anemia	160	92
Preterm labour	124	72.5
Hypertensive disorder	45	22.8
Gestational hypertension	6	3.5
Severe PE	27	15.5
Imminent eclampsia	6	3.5
Antepartum eclampsia	6	3.5
Atonic PPH	21	12

The mean birth weight of first twin was 1.8kg and second twin was 1.6kg. More than 50% of the babies required NICU admission for various reasons elaborated in table 6

Table 6: Perinatal morbidity.

Causes	Twin 1	Twin 2	Total
Preterm/LBW	104	116	220
Respiratory distress	36	48	84
Septicemia	18	24	42
Anemia	36	78	114
Jaundice	22	25	47

There were total of 44 perinatal deaths including 4 macerated still birth of second twin, 6 fresh still births of first twin, 10 fresh still birth of second twin. One patient had second twin fetal pepparous. Accounting for perinatal mortality of 120/1000 live births of twins.

DISCUSSION

In this study the prevalence rate of twins was 1.56% accounting for 15.6 per 1000 deliveries seen in comparison with twin incidence ranging 18.03% quoted by Bangal VB et al.²

More than 80% of the patients were un-booked and vaginal deliveries are more common in un-booked than booked cases as the similar results were found in study conducted by Nwankwo TO et al.³

About 70% of the patients had both twin's cephalic presentation 12% of the patients had first twin breech and second vertex, 4.5% of patients had both twins breech which were almost similar to the study conducted by Arora et al.⁵ Anemia was the most common complication accounting for more than 90%. Followed by preterm labour accounting for 71% similar percentage found in most of the studies coated and same was the most important factor contributing for perinatal morbidity and mortality.^{4,6}

The caesarean rate in our study was around 30%, similar to the study done by Wanjari SA.⁷ Important indications were fetal malpresentations and prev lscs which were the same indications in majority of the studies coated.^{2,7}

The mean birth weight of first twin was 1.8kg and second twin was 1.6kg which were similar to the studies done by Gurupreet Kaur et al, Chaudhary et al and Jacques Milliez MD et al.⁸⁻¹⁰ The low birth weight in the present study could be due to nutritional factors, low socio-economic factors and increased prevalence of preterm labour.

The perinatal mortality rate of this study was around 12% approximately similar to the study done by Wanjari SA.⁷

CONCLUSION

Twins have a fivefold greater risk of dying before their first birthday compared to singletons. Among the survivors, there is an increased risk of long term mental and physical handicaps. Nutritional anaemia and pregnancy induced hypertension are commonly found in mother with twin pregnancy. The overall risk of transfer of the mother to an adult intensive care unit shifts from 0.3% with a singleton pregnancy to 3.1% after a twin delivery. Hence the high-risk nature of multiple pregnancy requires vigilant antepartum, intrapartum and postpartum care. 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.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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