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Original Article

“A Study Of Maternal And Fetal Outcome In Multifetal Gestation At A Rural Based Teaching Hospital - A Retrospective Analysis ”

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ABSTRACT

OBJECTIVES: To study the maternal and the fetal outcome in multifetal gestation at a tertiary care centre at Kolar. **METHODS :** This is a retrospective study from July 2012 to June 2013. All pregnant women with multifetal gestation admitted at R L Jalappa Hospital , during this period were included in the study. The medical records of cases were retrieved and analyzed for various demographic features, complications of pregnancy, maternal and neonatal outcome. **RESULTS :** The incidence of twin pregnancy in our set up is 2.6% and was highest in the age group of 21-25 yrs (51%). Family history was present in 26%, and history of ovulation induction in 6%. 48.3% had preterm labour, 27.4 % had anemia and 14.5% had severe preeclampsia complicating pregnancy. 59.6 % delivered vaginally, 40.3% had cesarean deliveries and the most common indication was malpresentation of the first twin. Preterm deliveries were seen in 61.2% and 33.8% had term deliveries. Post partum complications were seen in 9.6% of the patients, commonest being PPH-6.4% and there was 1 case of post partum eclampsia and one maternal mortality due to cardiac failure. 49% of the babies had birth weight between 1.5-2 kg. and 7.25% were >2.5 kg. 37 babies required NICU admission and there were 15 perinatal death(12.09%) prematurity being the most common cause for death. **CONCLUSION :** Twin pregnancy is a significant risk factor for maternal and perinatal morbidity and mortality in low-resource settings; Improved obstetric care and neonatal services and health education of the mother and health care providers will improve the outcome in twin pregnancy.

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1. Introduction

Twin pregnancy is considered as a high risk pregnancy. In India, twinning occurs in approximately 1% of all pregnancies and has been reported to be responsible for 10% of perinatal mortality.[1] Advances in assisted reproductive techniques have resulted in increased number of higher order pregnancies.[2] It results commonly from the fertilization of two separate ova (dizygotic) and about one third of cases arise from division of a single fertilized ovum into two separate embryo (monozygosity).[3]

Globally, the highest incidence is found in sub-Saharan Africa, with an average twinning rate of 20 per 1,000 deliveries compared to 10 per 1,000 deliveries in Europe and around 5-6 per 1,000 deliveries in Asia.[4,5] Twin pregnancies are associated with a variety of maternal and fetal complications. Common maternal

complications reported are nutritional anemia, pre eclampsia, antepartum hemorrhage, preterm labour and polyhydramnios. Fetal complications are reported to be more in monozygotic pregnancies as compared to dizygotic twins.

Prematurity, growth restriction, congenital anomalies, twin-to-twin transfusion, birth asphyxia, and birth trauma are the problems faced by the multiple fetuses. Neonatal intensive care unit (NICU) admission is required by one fourth of twins, three fourths of triplets, and virtually all quadruplets. Thus the knowledge of maternal complications in multiple gestation helps in better maternal surveillance, and in prevention and treatment of the complications.

Hence this study was undertaken to assess the maternal and perinatal complications with twin pregnancy in our set up

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Materials and methods

This is a retrospective study done from July 2012 to June 2013. All pregnant women with multifetal gestation admitted as in patients at R L Jalappa Hospital and research centre, Tamaka, Kolar during the study period were included in the study. The medical records of cases were analysed for various maternal factors like age, parity, gestational age, associated complications, mode of delivery, and post partum complications. Fetal outcome analysed includes gestational age, birth weight, fetal presentation, NICU admissions, perinatal complications and mortality.

INCLUSION CRITERIA-All the pregnant women with multifetal gestation admitted at R L Jalappa Hospital and research centre between July 2012 to June 2013 were included in the study.

EXCLUSION CRITERIA-Patients with known pre existing medical disorder like chronic hypertension, pre gestational diabetes, cardiac disease , renal disease or collagen vascular disorder were excluded

The sources of information were patient case record, labour ward, neonatal ward, and theater records. The total number of deliveries, neonatal outcome, and numbers of labor and post partum and postnatal ward admissions were obtained for the period under review. Data collected were analyzed using SPSS version 10

RESULTS:

The incidence of twin pregnancy in the present study was 2.6% and it was highest in the age group of 21-25 yrs (51%). Family history was present in 26%, and history of ovulation induction noted in 6%. 48.3% had preterm labour, 12.9 % had anemia and 14.5% had severe preeclampsia complicating pregnancy. 59.6 % delivered vaginally, 40.3% had cesarean deliveries and the most common indication was malpresentation of the first twin. Preterm deliveries were seen in 61.2% and 33.8% had term deliveries. Post partum complications were seen in 9.6% of the patients, commonest being PPH-6.4% and there was 1 case of post partum eclampsia and one maternal mortality due to cardiac failure. 49% of the babies had birth weight between 1.5-2 kg. and 7.25% were >2.5 kg. 37 babies required NICU admission and there were 15 perinatal deaths(12.09%). prematurity being the most common cause for death.

Table I: Age distribution of patients studied.

AGE OF PATIENTS	NUMBER (n=62)	PERCENTAGE
<20	15	24.1%
21-25	32	51.6%
26-30	10	16.1%
>31	5	8.06%

Table II: Gestational age of the patients at presentation

GESTATIONAL AGE AT PRESENTATION	NUMBER (n=62)	PERCENTAGE
28-32 wks	12	19.35 %
32-36 wks	30	48.38%
>36 wks	20	32.25%

Table 3: Antepartum complications noted among patients studied

COMPLICATIONS	NUMBER	PERCENTAGE	
PRETERM LABOUR	30	48.3%	
ANEMIA	MILD	8	12.9%
	MOD	3	4.83%
	SEVERE	6	9.7%
PREECLAMPSIA	MILD	2	3.22%
	SEVERE	9	14.51%
PROM	3	4.83%	
PPROM	6	9.67%	
RH NEG PREGNANCY	5	8.06%	
ANTEPARTUM H'RAGE	2	3.22%	
ANTEPARTUM ECLAMPSIA	5	8.06%	
ABORTION	3	4.83%	
GESTN HTN	2	3.22%	
CORD PROLAPSE	1	1.61 %	
CARDIAC FAILURE	1	1.61 %	

Table IV: Distribution of chorionicity

MONOCHORIONIC- DIAMNIOTIC	20	32.25%
DICHORIONIC- DIAMNIOTIC	41	66.12%
MONOCHORIONIC- MONOAMNIOTIC	1	1.61%

Table V: Birth weight of the neonates in the study population

WEIGHT (gms)	Itwin	II twin
1000-1400	11	15
1500-2000	33	28
2100-2400	16	13
>2500	04	05

Table VI: NICU admissions

NICU ADMISSION	Number	%
ITWIN	17	13.70
IITWIN	20	16.12

Table VII: Various causes for perinatal mortality

PERINATAL MORTALITY	(n=15)
PREMATURITY	07
RDS	03
BIRTH ASPHYXIA	02
SEPSIS	01
MAS	01
CORD PROLAPSE	01

DISCUSSION:

The incidence of twin and higher order multiple gestation has significantly increased over the last two decades. The greatest contributor for multiple gestation has been the use of assisted reproductive technology. The incidence of twin pregnancy in this study was 2.6% which is much higher than quoted in other studies. Most probably because ours being a tertiary referral centre most of the cases were referred from the peripheral subcentres. Majority of women were in the age group of 21-25 years. Present study shows similar incidence of twins among primi and multigravidas whereas study by Chaudhary S reported that twins were more common in multi gravid (64.2%) as compared to primigravidae (35.8%) [6].

Yuel Veronica Irene et al performed review of 200 multifetal gestations. They observed higher risk of antenatal and perinatal complications in multiple pregnancies.[7] The present study showed that the commonest antepartum complication associated with twin pregnancy was preterm labour seen in 48.3% patient followed by severe pre eclampsia (14.5%) and severe anemia (12.9%). which seems much less as compared to Naushaba Rizwan et al. where 84% patients had preterm labour, anemia complicated 65.6 % of patients and hypertension noted in 31.2 % of cases. Abruptio placentae occurred in 6.2% cases.

Antoine Hannoun et al observed that nulliparous women with twin gestations are at significantly higher risk for preterm delivery and caesarean delivery compared with multiparous women. These women should be monitored closely and counselled regarding the risks and their attendant morbidity[8]

In our study spontaneous vaginal delivery was more common for 1 st twin and Caesarean section was commonest mode of delivery for 2nd twin . Cesarean section rate in the present study

was 40.3%. Commonest fetal presentation was both twins in vertex presentation comparable to Jones [9] et al and chowdhary et al in their study. Post partum complications were seen in 9.6% of the patients, commonest being PPH-6.4%.

Average birth weight among both twins was in the range of 1.5-2 kg, where as the studies by chowdhary et al and US studies showed birth weight in the range of 2-2.5 kg which The low birth weight in the present study could be due to nutritional factors, Low socio economic factors and increased prevalence of preterm labour. NICU admissions were required in 37 babies (29.8%) and there were 15 perinatal deaths (12.09%). Several studies also reported similar perinatal mortality rate. [10-14]

Naushaba et al showed that most common cause of neonatal death was low birth weight (32.8%) cases. A study on perinatal outcomes of multiple births in Southwest Nigeria by Olusanya, Bolajoko O showed that multiple births were also more likely to be associated with moderate/extreme prematurity (<34 weeks), low birth weight (<2,500 g), IUGR, low five-minute Apgar scores (<7), neonatal sepsis, and admission to the SCBU.[15]

CONCLUSION:

Twin pregnancy is a significant risk factor for maternal and perinatal morbidity and mortality in low-resource settings. The knowledge of maternal and fetal complications helps in better surveillance, and in prevention of the morbidity. Preterm labour and prematurity were the leading cause for morbidity. Improved obstetric care and neonatal services and health education of the mother and health care providers will improve the outcome in twin pregnancy.

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