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A STUDY ON FETOMATERNAL OUTCOME IN TWIN GESTATION IN A TERTIARY RURAL HEALTH CENTRE

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ABSTRACT:

Introduction : *Twin pregnancy is considered as a high risk pregnancy ,accounting for approximately 1% of all pregnancies. They are associated with a variety of maternal and fetal complications and has been reported to be responsible for 10% of perinatal mortality .* ***Aims and Objectives :****To study the maternal risk factors, its effects,complications and perinatal outcome in twin gestation in rural health setup.* ***Materials and methods****: Included retrospective analysis of 30 twin pregnancies admitted in AIMS ,B.G.Nagara, during 24 months study. Here the maternal factors like parity, age, antepartum risk factors, mode of delivery and the neonatal characteristics like birth weight and discordance, need of NICU admission, perinatal mortality and its causes were studied .* ***Results :****In our study ,60% were multigravida.76.6% had spontaneous conception , 23.3% had ovulation induction. About 73.3% were in age group of 20-25 years.60% had dichorionic diamniotic twins. 50% of them were complicated with anaemia,30% with hypertension. 76.6% had preterm deliveries and 23% term deliveries.47% had spontaneous vaginal delivery versus 53% LSCS. Mean gestational age at delivery was 35.4 weeks.Of the 60 babies ,57 % weighed between 1.5-2.5 kg.50% needed NICU admission, perinatal mortality being 13 (21%),2 were still births,7 due to prematurity and LBW. No maternal mortality noted.* ***Conclusion:*** *Multiple pregnancy is a significant risk factor for maternal and perinatal morbidity and mortality. The knowledge of maternal and fetal complications helps in better surveillance and in prevention of the morbidity and adverse outcome. And hence the need for better obstetric care, neonatal care, health services, there by to get a better fruitful outcome.*

KEY WORDS: twin gestation, anaemia, prematurity, Respiratory Distress Syndrome

INTRODUCTION:

Multiple births are much more common today than they were in the past due to the dramatic incidence in the use of ovulation inducing agents, assisted reproductive technologies and a shift towards elderly primigravida and grand multiparity, where multiple gestations are more likely to occur naturally.[1,2]

Twin gestation 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 [3].

Twinning is a result of 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)[4]. Globally, the highest incidence is found in sub-Saharan Africa, with an average twining 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[5,6].

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 like Prematurity, fetal growth restriction, congenital anomalies, twin to-twin transfusion, birth asphyxia, and birth trauma and increased perinatal mortality. Neonatal intensive care unit (NICU) admission is required by one fourth of twins, three fourths of triplets, and virtually all quadruplets.

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

MATERIALS AND METHODS :

This study included retrospective analysis of 30 women with twin pregnancies, over a period of 24 months with 28 completed weeks of gestation , admitted for delivery in labour room ,in department of OBG ,Adichunchanagiri institute of medical sciences ,B.G.Nagara .

Inclusion criteria:

-Twin gestation with 28 completed weeks

Exclusion criteria :

-Gestational age less than 28 weeks

- women with pre existing medical disorders like chronic hypertension, pre gestational diabetes, cardiac disease , renal disease or collagen vascular disorder

Detailed obstetric history, family history of twins, intake of ovulation induction agents were taken. A general physical examination was done to note the associated complications like anemia, hypertension, and jaundice. Per abdominal examination was done to note the presenting part, lie, position, size and its relation to birth canal and FHS were noted. Pelvic examination was done to note PROM and antepartum hemorrhage and to note the stage of labour, presentation, status of the membranes and the adequacy of pelvis.

Data regarding maternal and neonatal parameters including demographic details, history, antepartum and intrapartum complications, neonatal outcomes and perinatal mortality were taken. Placental examination done to confirm the chorionicity. Details of mode of delivery, gestational age at the time of delivery, baby's sex, birth weight and apgar score were noted. Study was conducted during antenatal, labour and post-natal period till the patients were discharged.

Appropriate statistical methods were applied.

RESULTS :

Analysis of 30 twin gestations satisfying the inclusion criteria was done and following results were observed**.**

Table 1:Age distribution

Age	**Number**	**%**
20-25 yrs	22	73.3%
25-30 yrs	6	20%
>30 yrs	2	6.6%

Majority of the women studied, 73.3% were in mean age group of 20-25 years.

Table 2:Parity of the patients studied with mode of conception

Parity	**Mode of conception**		**Total**	
	Spontaneous	**Infertility treated**	**Number**	**%**
Primigravida	8	4	12	40%
Multigravida	15	3	18	60%
	23 (76.6%)	7 (23.3%)		

In our study , 60% were multigravida and 40 % were primigravida. Of these ,76.6% had spontaneous conception , 23.3% had ovulation induction. 60% had dichorionic diamniotic twins.

Table 3:Maternal complications

Parameters	**Number**	**%**
Pre eclampsia	9	30%
Eclampsia	1	3.3%
Oligohydramnios	2	6.6%
Anaemia	15	50%
GDM	1	3.3%
Hypothyroid	3	10%
PROM	3	10%
PPROM	6	20%
HbsAg	1	3.3%
Cord prolapsed	1	3.3%
WDPV	1	3.3%
Rh negative pregnancy	2	6.6%

Most of the women had antenatal complications. 50% were complicated with anaemia, 30% with hypertension,20% had PPROM .

Table 4:Gestational age at delivery

Gestational age	Number	%
28-32 wks	3	10%
32-34 wks	5	16.6%
34-36 wks	15	50%
>36 wks	7	23.3%

Antenatal steroids were given to all patients threatening to deliver prior to 34 weeks of gestation .76.6% had preterm deliveries and 23% term deliveries with mean gestational age 36-38 weeks. Mean gestational age in the study being 35.4 weeks .

Table 5:Mode of delivery

Mode of delivery		Number	%
Vaginal (46.6%)		14	46.6%
Caesarean section(53.3%)	Non vertex	9	56.25%
	Previous section	4	25%
	Fetal distress	3	18.75%

Commonest fetal presentation was both twins in vertex presentation in the study.
Mode of delivery was spontaneous vertex vaginal delivery in 46.6% versus 53.3% caesarean section, among which malpresentation of the 1st twin was the most common indication.

Table 6:Birth weight of the twins

Birth Weight	Twin 1	Twin 2
<1 kg	0	2
1-1.5 kg	6	6
1.5 -2 kg	6	5
2-2.5 kg	12	11
>2.5 kg	6	6

Of the 60 twin babies , 57 % weighed between 1.5-2.5 kg, with 83% with wt discordance < 500 gms.

Table 7:NICU admissions

NICU Admission	Number (58)	%
Yes	29	50%
No	29	50%

50% needed NICU admission

Table 8:Perinatal mortality

Cause of death	Number (13)	%(21.6%)
IUD	2	3.3%
Cord prolapse	1	1.6%
Birth asphyxia	3	5%
Respiratory distress syndrome	7	11.6%

When perinatal outcome was analyzed, prematurity was major problem in patients with twin pregnancy. Perinatal mortality being 13 (21.6%). Out of which 2 were IUD'S, 7 due to RDS due to prematurity and LBW.

DISCUSSION :

Twin gestation is a high risk pregnancy with unique antepartum , intrapartum as well as fetal complications.

Most (60%) of the women were unbooked. The same frequency of un-booked cases was found in a study conducted by Naqvi MM in 2003 at Wah Cantt Hospital, where among 96 cases, 65 patients were un-booked. This shows lack of accessibility to antenatal services by majority of women.[7]

Majority of the women studied, 73.3% were in mean age group of 20-25 years.Present study shows higher incidence of twins among multigravidas compared to primi, as supported by study conducted by Chowdhury S , that twins were more common in multi gravida (64.2%) [8]. Of these ,76.6% had spontaneous conception , 23.3% had ovulation induction. 60% had dichorionic diamniotic twins.

Yuel Veronica Irene et al performed review of 200 multifetal gestations. They observed higher risk of antenatal and perinatal complications in multiple pregnancies.[9]

The present study showed that the commonest antepartum complications associated with twin pregnancy were preterm labour (76%), severe anemia (50%),severe preeclampsia(30%), which were similar to the study conducted by Naushaba Rizwan et al, where 84% patients had preterm labour, anemia (65.6 %) and hypertension (31.2 %).[10]

In 30 twin gestations,commonest fetal presentation was both twins in vertex presentation comparable chowdhary et al in his study.[8] In our study,46.6% had spontaneous vaginal delivery versus 53.3% caesarean section. Mean gestational age at delivery was 35.4 weeks .A large epidemiologic analysis found that only 16% remained undelivered at 36 weeks.

. Average birth weight among both twins were in the range of 2-2.5 kg, as supported by studies by chowdhury et al [8] and US studies. NICU admissions were required in 29 babies (50%) and there were 13 perinatal deaths (21.6%) ,of these 2 had IUD, 7 due to RDS due to prematurity and LBW. Adesina K T et at[11] ,sultana masuda et al [12] also reported similar perinatal mortality rate. Naushaba et al [10] 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), and admission to the NICU.[13] There was no maternal mortality in this study ,consistent with study by Chowdhury. [8]

CONCLUSION:

Multiple pregnancy is a significant risk factor for maternal and perinatal morbidity and mortality . The knowledge of maternal and fetal complications helps in better surveillance, and in prevention of the morbidity and adverse outcome. Hence the need for better obstetric care,neonatal care ,health services to get a better fruitful outcome.

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