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STUDY OF THE PERINATAL OUTCOME OF SECOND OF THE TWIN

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KEYWORDS

INTRODUCTION:
The rate of multiple gestation has increased in the past three decades fuelled largely by infertility treatments. The objective is to study about the perinatal mortality and morbidity of twin fetuses influence of pregnancy complications and various causes of perinatal death in multiple pregnancies.

STUDY DESIGN:
This is a prospective /descriptive cohort study conducted at Institute of obstetrics and gynecology, Chennai .

BACKGROUND AND OBJECTIVE:
Multiple gestation is one among the important high risk pregnancies which account for about 3% of all births. High order multiple pregnancies are becoming increasingly common as a result of assisted reproductive technologies. Incidence of multiple pregnancies range from 6.8- 17% with clomiphene citrate, from 18-53.5% with human menopausal gonadotropins(Gall S.A. 1996) and in IVF patients from 22-25%(chitkara, U and Benkowitz, R.Z.2002)

The fetuses of multiple pregnancies carry important risk factors like prematurity, IUGR, congenital anomalies, risk of asphyxia, and other complications peculiar to twin pregnancies like interlocking of twins, conjoint twins, TRAP sequence, twin –twin transfusion syndrome.

AIM OF STUDY:
- To study about the perinatal morbidity and mortality in multiple gestation.
- Perinatal outcome of 2nd of the twin in 300 cases of twin pregnancies.
- To study the influence of pregnancy complications like a) anemia b) PIH c)PROM d) atonic PPH.
- To study the relationship of the following factors to perinatal mortality: a) presentation of fetus b) time interval between delivery of fetuses c) birth weight of each fetus d) mode of delivery.
- To study the various causes of perinatal death in multiple pregnancies.

MATERIALS AND METHODS:
The clinical subjects take for this study consisted of 300 twin gestation studied over a period of one year from January 2006-December 2006 at the Institute of obstetrics and gynecology, madras medical college.

EXCLUSION CRITERIA: 1. Women with uncertain LMP. 2) Women with fundal height less for the period of amennorheoa 3) women with bad obstetrics history.

During antenatal visit, careful history was taken regarding about the period of amenorrhea, main complaints like nausea, vomiting, pedal edema, breathlessness, easy fatiguability, previous obstetric history, history of multiple pregnancy in previous pregnancy and in the family was asked, history of ovulation induction and events in each trimester.

After deatailed history taking, a thorough general and obstetric examination was done. Any evidence of anemia or PIH was looked for. Obstetric examination was done to see for the presentation of fetuses, fetal parts palpated, and fetal heart sounds were auscultated. An ultrasound done to confirm the findings. Routine laboratory investigations were done.

When the patients were admitted with labour pains, intrapartum complications like PROM, abruption, the method of delivery, time interval between the delivery of fetuses, condition of the babies at birth and their birth weight were noted. Placenta was examined for the number and the chorion –amnion relationship. Condition of both baby and mother was noted till the time of discharge.

RESULTS:
During the period of one year from January 2006- December 2006 out of 335 twin gestation, after exclusion, 300 cases were studied. The general incidence of multiple pregnancy, incidence in relation to age, parity, gestational age at birth, featal presentation, mode of delivery, birth weight, pregnancy complication in multiple pregnancy, perinatal outcome in relation to birth order were analyzed.

In this study series the incidence of multiple pregnancy was 18.7/1000 live births. Out of this the most common age group was 20-24 years comprising about 56% of cases. Multiple pregnancy was common in primigravada forming about 42.8% of total cases. About 2.6% cases gave a history of intake of Clomiphene citrate. In family history the maternal history was more significant than the paternal history. There was a high incidence of anemia about 20.6% in the study group and the incidence of PROM and PPH were more when compare to the general population.

Dichorionic twins comprised about 63.1%, when compare to monochorionic twins. The most common presentation was vertx-vertex and then comes the breech-vertex presentation. Most of the deliveries occurred between 31 to 33 weeks. The time interval between the first and second twin was about 1 to 5 minutes. APGAR scores of twin II was lower when compare to the first twin.

The PNMR was about 137/1000 live birth in this study series. This was about two times when compare to that of the general population in IOG for the same study period. The PNMR of the second twin was higher. The perinatal loss was highest with assisted breach delivery with the percentage of 22% and with the birth weight less than 1.5kg. The perinatal death was strongly related to pre-maturity and its complications.

Perinatal mortality and Birth order:

S.No		TWIN I	TWIN II
1.	Discharged alive	265	253
2.	Perinatal loss	35	47
3.	Perinatal mortality rate	117/1000	157/1000

P value=0.011

Perinatal mortality and gestational age at birth

S.No	Gestational Age(in weeks)	No of pregnancy	No of perinatal loss	Percentage of perinatal loss
1.	28-30	48	43	89.5%
2.	31-33	128	20	15.6%
3.	34-36	87	14	16%
4.	37 & above	37	5	13.3%

Perinatal Mortality and Mode of Delivery

S.No.	Mode of delivery	Twin I		Twin II		Percentage of perinatal loss
		No	Perinatal loss	No	Perinatal loss	
1.	LN	160	16	166	27	13%
2.	ABD	55	10	45	12	22%
3.	Forceps	3	-	2	-	20%
4.	CS	82	6	87	7	7.8%

LN- Labour Natural
ABD-Assisted Breech Delivery
CS- Caeserean Section

Perinatal Mortality and Birth Weight

S.No.	Birth Weight in Kg	Twin I		Twin II		Percentage of perinatal loss
		No	Perinatal loss	No	Perinatal loss	
1.	<1 Kg	12	12	13	13	100%
2.	1-1.5	40	17	45	20	43%
3.	1.6-2	85	3	98	9	6.3%
4.	2.1-2.5	109	2	91	5	3.6%
5.	>2.5	54	-	53	1	1.8%

P value-0.01

CONCLUSION:

In our study incidence of multiple pregnancy is 18.7/1000 live births out of which 42% of the patients were primigravida.Dichorionic twins were more when compared to monochorionic twins.Most of the babies were born with time interval of 1-5 minutes.The APGAR scores of twin II were lower when compared to twin I.The "p" value is 0.102 and hence this difference is not significant.Most of the deliveries occur between the gestational age of 31-33 weeks. Perinatal mortality rate in multiple gestation is 137/1000 live births in this study series.This is two times when compared to PNMR in general population which is 67/1000 live births for the study period.PNMR of second twin is higher 157/1000 when compared to first twin 117/1000. "p" value is 0.011 which is statistically significant.

Out of total 82 perinatal loss first twin were 35 and second twin were 47.Perinatal death is strongly related to prematurity and its attendant complications.28 to 30 weeks contributed to 89.5% of deaths.31-33 weeks contributed to 15.6% of deaths.

The lowest perinatal loss were in those cases where both babies presented as vertex. In this study,perinatal loss is highest in assisted breech delivery,the percentage being 22%.The p value is 0.009.So it is statistically significant.Based upon the birth weight,perinatal los is maximum when birth weight is <1.5 kg.

The incidence of respiratory distress syndrome,intrauterine growth restriction and perinatal hypoxia is more in case of second twin when compared to first twin.When we analysed the different causes of death ,most of the perinatal mortality is due to prematurity and its complications.

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