

Maternal and perinatal outcome in twin pregnancy- a hospital based study

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Abstract

Multiple pregnancies are a high risk pregnancy deserving institutional delivery. Twin pregnancies constitute less than 1% of all births yet are responsible for high perinatal mortality and morbidity. The study is carried out to assess maternal complications and perinatal outcome in twin pregnancy. The study is correlated in terms of maternal age, foetal presentations, percentage of PIH, anaemia, postpartum complications, cause of death in twin pregnancies.

Keywords: Twin pregnancy, Pregnancy Induced Hypertension, Anaemia.

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INTRODUCTION

When more one foetus simultaneously develops in the uterus it is called multiple pregnancies. (Twins) is the commonest; although rare, development of three foetuses (triplets), four foetuses (quadruplets), five foetuses (quintuplets) or six foetuses (six tuplets) may also occur. Mortality and morbidity are increased appreciably in twin pregnancy. It is not an overstatement therefore to consider a twin pregnancy to be an complicated pregnancy. The problems of twin gestation may manifest during the antenatal period as abortions, maternal anaemia, pregnancy induced hypertension, placental accidental, hydramnios, placental previa premature labour, and foetal malformations, during labour as prolonged labour, mal presentations, cord prolapse, intrapartum deaths and post partum haemorrhage. Twin pregnancy imposes greater demand on maternal physiological system and than an

increase in occurrence of many complication of pregnancy is a consequence of this burden on maternal adaptive capacity. Twin pregnancy remains continuing challenge and low birth weight due to prematurity is a single consistent factor associated with elevated risk for perinatal mortality and morbidity. Therefore weight of the foetus is the important factor of concern in the effort to reduce adverse outcomes in twin gestation. In light of the above factors the present study is designed.

There are two types of Twins:

1. Dizygotic twins
2. Monozygotic twins

Embryology of dizygotic twins:

About 75% of twins are binovular. Two fetuses develop from the fertilization of two ova liberated during same menstrual cycle. Each twin has its own placenta chorion and amniotic sac. When the ova are implanted near each other the two placentas seem to fuse. the circulations however remain completely separate. They resemble each other to the extent that the siblings of the same age would. They may be of different sex and sometimes look entirely dissimilar. Weinberg's rule states that number of dizygotic twins in any population is twice the number of twins of different sex. Embryology of monozygotic twins only 25% of twins are uniovular. There is one egg fertilized by a single sperm and therefore the offspring arise from the same germ plasma. They represent complete cleavage of the blastomeric vesicle; these children are always of the same sex and look alike. The

outcome of twinning depends on when the division occurs, if the division occurs before the inner cell mass is formed and the outer layer of blastocyst is not yet committed to become chorion that is within the first 72 hours after fertilization, two embryos, two amnions and two chorions will develop. There will evolve a diamniotic, dichorionic (FIG2) and monozygotic twin pregnancy. If the division occurs between fourth and eighth day after the inner cell mass is formed and the cells distended to become chorion have already differentiated but those of the amnion have not two embryos will develop each in separate amniotic sacs. The two amniotic sacs will eventually be covered by a common chorion thus giving rise to diamniotic, monochorionic and monozygotic twin pregnancy. If the division is initiated even later that is after embryonic disk is formed (around 14 days) cleavage is incomplete and conjoined twins are formed.

MATERIAL AND METHODS

The materials for the study were selected from the patients admitted to Sri Chamarajendra Government Hospital, HASSAN. The study group comprised of 100 cases out of which 50 will have twin pregnancy and will comprise the study group and another 50 cases of singleton pregnancy and the study period is from March 2009 to February 2014. All the patients under the study group were diagnosed as having twin gestation. In this study all women with twin pregnancy will be selected with the following inclusion criteria. Twin pregnancy beyond 28 weeks neonates upto 1 week medically normal the following are exclusion criteria twin pregnancy with medical illness, twin pregnancy before 28 weeks. maternal and neonatal data were gathered as follows maternal age, gravidity, previous obstetrics history, antepartum complications, time of delivery, mode of delivery intrapartum and postpartum complications and duration of hospitalization. Neonatal data include, sex of the baby, 1 minute and 5 minute apgar score, still births, intrauterine death, neonatal mortality. The outcome of twin pregnancy is studied in terms of perinatal mortality and morbidity.

OBSERVATION AND RESULT

Table 1: Age distribution of twin cases

Maternal age in years	No of cases	Percentage
Less than 20	6	12
20-24	24	48

25-29	19	38
30-34	1	2
Total	50	100

Table 2: Foetal presentations at the time of presentation of twin pregnancies

Presentation	No of cases	Percentage
Cephalic-cephalic	24	48
Cephalic-breech	12	24
Breech-cephalic	07	14
Breech-breech	51	10
Cephalic-transverse	01	02
Breech-transverse	01	02
Total	50	100

Table 3: comparison of PIH between twins and singleton

	Twins	Singleton
PIH	18	4
	32	46
Total	50	50

Table 4: Comparison of anaemia between singleton and twin pregnancy

HB in gm	Twins		Singleton	
	No of cases	percentage	no of cases	percentage
LESS THAN 6	03	06	0	0
6.1-8.0	11	22	4	8
8.1-1.0	23	46	24	48
MORE THAN 10	13	26	22	44
Total	50	100	50	100

Table 5: Comparison of antepartum haemorrhage between singleton and twin pregnancies

	Twins	Singleton
APH +	1	0
APH -	49(98.0)	50(100)
	50(100)	50(100)

Table 6: Comparison of postpartum complications between singleton and twin pregnancies

Complications	Twins	Singleton
Postpartum haemorrhage	5	2
Anemia	5	1
Maternal death	1	-

Table 7: Cause of death in twins

Cause of Death	Twins	a	b	Total
immaturity	3	2	5	
maceration	0	2	2	
asphyxia	2	0	2	

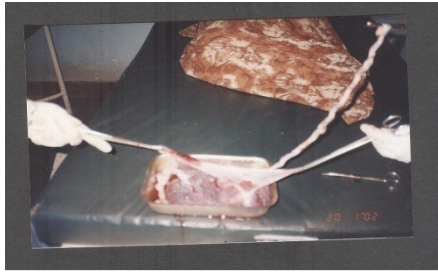


Figure 1: Dichorionic placenta

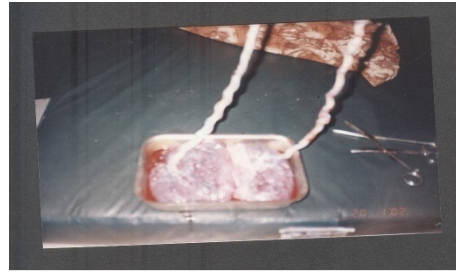


Figure 2: Dichorionic placenta

DISCUSSION

In the present study the maximum cases are between 20 to 24 years i.e., 249 (48%) followed by age group 25 to 29 i.e., 19 (38%). Maternal age 30 to 34 was seen in 1 (2%) of cases and average maternal age in present series was 24.93 years. In Rani R¹ series 82% of the patients were in the age group of 20 to 30 years. In Louis Keith² series maximum cases were seen in between 25 to 30 years (42%). In the present study more number of cases was seen at lower age and this is because of early child marriages in India. In the present study 48% of cases were in cephalic-cephalic presentation, 24% cephalic breech, 14% breech-cephalic, breech-breech 10%, cephalic-transverse 2% and breech-transverse 2%. Sholapurkar³ in his study observed similar findings with cephalic-cephalic 40.2%, cephalic-breech 29.8%, breech-cephalic 8.9%, breech-breech 7.46%, cephalic-transverse 1.49% and breech-transverse 1.49%. Shilesh Kore et al⁴ found vertex-vertex 41.87%, vertex-breech 32.5%, breech-vertex 8.54%, breech-breech 7.44%, vertex-transverse 5.23%, and breech-transverse 3.03%. In the present study out of 50 cases of twin pregnancies 10 (20%) of them are monochorionic and 40 (80%) were dichorionic. However it was observed that of these 10 cases of monochorionic 2 cases were monoamniotic and 8 cases were diamniotic. Sepulveda, Sebire et al⁵ in their study in 1996 demonstrated that the high reliability by ultrasound examination at 10 to 14 weeks of gestation in determining chorionicity in twin pregnancy so that early diagnosis of chorionicity is essential preventing complications. In the present study there were 18 (36%) cases of pregnancy induced hypertension in twins, whereas only 4 (8%) among singleton. Tempe et al⁶ in their study observed 36.25% of PIH in twins and 10% in singleton which is identical to present series. Arias⁷ reported incidence of PIH of 4 to 20% in twins versus 6 to 8% in singletons. Kovacs et al⁸ observed PIH in 23.2% of twins versus 8.2% in singletons.

In the present study most of the cases had mild anaemia (46%), moderate anaemia in 22% and severe anaemia in 6% whereas in singleton mild anaemia in 46%, moderate anaemia in 8% of cases. In Tampe A⁶ study there were 34.5% of anaemia cases in twin's and 17.7% in

singleton. Rani Retal¹ in their study they observed 61% of twins were anaemic. Sholapurkar³ observed 70% of cases of twins were anaemic which is identical with present study. In the present study placenta praevia is observed only in 1 case and none in singleton pregnancy. Sholapurkar³ observed APH in 3% of twins in his study. Tempe A⁶ found 7.01% cases of APH in twins when compared to singleton which is 5.5% only. 56% of cases in this study were between 33 to 36 weeks, 16% were between 28-32 weeks and 28% were more than 37 weeks of pregnancy. Overall 72% of pregnancies resulted in premature delivery whereas in singleton 94% of cases more than 37 weeks and 6% were between 33 to 36 weeks. In Ghai and Vidyasagar⁹ study 94% of twins were immature in contrast to 8% to singleton. In Tempe et al study⁶ 36.34% of twin cases were premature in contrast to 18.8% of singleton. In Chhabra's study¹⁰ the incidence of prematurity in twins was 64%. In Shailesh Kore¹¹ study the incidence of premature was 68.4%. In the present study postpartum haemorrhage was seen in 10% of twins and 4% in singleton. Anaemia was observed in 10% of twins and 4% of singleton. Anaemia was observed in 10% of twins and 2% of singleton. There was 1 maternal death due to pulmonary embolism in twin pregnancy. In Narvekar study¹¹ the incidence of postpartum haemorrhage is 22% following twin pregnancy. In Rani R et al¹ study it is about 20.32% in twins. In Naushaba Rizwan¹² 2 years study from July 2007 to July 2009 they observed 54 (84%) were of pre term labour, anaemia were 42 (65.6%), prematurity 54 (84.3%), majority were in between 28-35 weeks of gestation. In Kahn B et al¹³ study anaemia was the most common complication followed by preterm labour, PIH, intrauterine growth retardation in twin pregnancy. In Indira Hanumanthaiah¹⁴ study the perinatal mortality observed was 15.2%.

CONCLUSION

The increase perinatal loss is due to increased pregnancy complications like pregnancy induced hypertension, APH and mal presentations. The significant perinatal factors restorable are premature labour and infants of low birth weight. Early diagnosis by sonography, hospitalization for bed rest, antenatal assessment for maternal and foetal

complications, planned delivery with good neonatal care will help to decrease the mortality and morbidity in both.

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