



MODE OF DELIVERY IN MULTIPLE PREGNANCY AND FETAL OUTCOME

KEYWORDS

Multiple pregnancy, chorionicity

Dr.SudhaRani Grandhe
Dr.V.Nagamani

Asst.Prof. of OBG Kurnool Medical College,Kurnool.

Prof. Of OBG, Kurnool Medical College,Kurnool.

ABSTRACT **ABSTRACT:** Multiple pregnancy is one of the high risk pregnancies associated with considerable morbidity & mortality to both the mother (anaemia, toxemia, APH, PPH) and fetus (due to prematurity, fetal distress, cord prolapse & twin to twin transfusion syndrome). To the mother gestational age, chorionicity, fetal presentation, & fetal weight play a role in deciding the mode of delivery & second twin is at higher risk than the first twin.

INTRODUCTION:

There is a litany of complications that may be encountered during labor and delivery of multiple fetuses. In addition to preterm labor and delivery there are increased rates of uterine contractile dysfunction, abnormal fetal presentation, umbilical cord prolapse, placenta previa, placental abruption, emergent operative delivery, and postpartum hemorrhage from uterine atony.

For conducting delivery of multiple pregnancy trained obstetric attendant, I.V. line, blood for transfusion, skilled obstetrician, anaesthetist, paediatrician one for each fetus, electronic devices for fetal monitoring & ultrasound machine for fetal position are necessary.

Although any combination of fetal positions may be encountered, the most common on admission into labor room are cephalic-cephalic, cephalic-breech & cephalic-transverse positions. With the exception of cephalic-cephalic other combinations are unstable before, during labor & delivery. Accordingly, compound, face, brow, and footling breech presentations are relatively common, and even more so if fetuses are small, amniotic fluid is excessive, or maternal parity is high. Cord prolapse is also frequent in these circumstances. About 50% of twin pregnancies end in spontaneous or indicated preterm labor.

After this initial evaluation, if active labor is confirmed, then a decision is made to attempt vaginal delivery or to proceed with cesarean delivery. The latter is chosen in many cases because of fetal presentations. Cephalic presentation of the first fetus in a laboring woman with twins may be considered for expectant management. Progress of labor is slow in nullipara & multipara by 1-3 hrs. for completion of first stage despite labor induction and augmentation. Oxytocin alone or in combination with cervical ripening can be safely used if labor is prolonged. Delivery of the first twin in cephalic presentation can be accomplished spontaneously or with forceps. It has long been recognized that the second twin is at a much greater risk than the first and the second twin at term has worst neonatal outcome. Delivery of the second twin should be accomplished after the delivery of the first twin. The longer the interval between the delivery of both twins the greater is the risk of increasing hypoxia to the 2nd twin. Therefore some advocate C/S. Planned C/s does not improve neonatal outcome if both are in term cephalic. Following delivery of the first twin, the presenting part of the second twin, its size, and its relationship to the birth canal should be quickly and carefully ascertained by combined abdominal, vaginal, and at times, intrauterine examination. Sonography may be a valuable aid. If the fetal head or the breech is fixed in the birth canal, moderate fundal pressure is applied and membranes are ruptured. Immediately afterward, digital examination of the cervix is repeated to exclude cord prolapse. Labor is allowed to resume. If contractions do not begin within approximately 10 minutes, dilute oxytocin may be used to stimulate contractions. If vaginal bleeding occurs (abruption) or fetal distress is evident delivery of the 2nd twin should be immediate

by I.Pversion with breech extraction or C/S. General anaesthesia with halogenated inhalational agents or IV/SL nitroglycerine becomes necessary to facilitate intra uterine manipulations with adequate uterine relaxation. To take maximum advantage of the dilated cervix before the uterus contracts and the cervix retracts, delay must be avoided. Prompt cesarean delivery of the second fetus is preferred if no one present is skilled in the performance of internal podalic version or if anesthesia that will provide effective uterine relaxation is not immediately available.

For cephalic & non cephalic twins C/S for both are vaginal delivery of first twin followed by external cephalic version & delivery of 2nd twin or breech delivery. Caesarean delivery for the 2nd twin occurs in 9.5% cases & it is required due to intra partum complications (cord prolapsed, abruption, contracting cervix, fetal distress, mal presentations, CPD). With breech presentation of the 1st twin & cephalic presentation of the 2nd twin a rare complication of inter locking twins occurs in 1 in 1000 twin deliveries & 1 in 50,000 births with breech & vertex where death of 1st twin is inevitable & it is necessary to proceed with emergency C/S. VBAC is suitable for women with 1st twin in cephalic presentation. After delivery of the placenta PPH should be prevented by continuous uterine message, IV oxytocin & prostaglandin administration.

MATERIALS & METHODS:

Multiple pregnancies admitted to labor room in GGH, Kurnool over a period of one year (January 2016- December 2016) were studied for incidence, gestational age, fetal presentation, chorionicity, sex, birth weight, mode of delivery, indications for LSCS, fetal complications & fetal outcome studied over a period of one year & the results analysed. Second trimester abortions were also considered in this study. Triplets taken for incidence only.

INCIDENCE

	Total no. of deliveries	No. of LSCS
Total	8896	2194
Multiple gestation	136	51 + 1 (twins)+(triplets)
Twins	132	51
Triplets	4	1

Triplets considered for incidence only. For all other parameters triplets excluded from the study.

GESTATIONAL AGE

Second trimester abortions included (6)		
	<28 weeks	20(15.5%)
	28-36 weeks	38(28.78%)
	37-40 weeks	74(56.06%)
	>40weeks	Nil

FETAL PARAMETERS

	Cephalic-cephalic	57(45.23%)
ABORTIONS EXCLUDED	Cephalic-breech	32(25.39%)
	Cephalic-transverse	1(0.79%)
	Breech-breech	13(10.31%)
	Breech-cephalic	22(17.46%)
	Breech-transverse	Nil
	Others(Transverse-vertex)	1(0.79%)

CHORIONICITY

Chorionicity and sex of twins	Dichorionic diamniotic	Both Mch-40(39.21%)
(abortuses considered)	102(77.27%)	Both Fch- 32(31.37%)
		Opp. Sex-33(32.35%)
	Monochorionic diamniotic	Both Mch-15 (44.83%)
	29(21.96%)	Both Fch-16 (55.17%)
	Monochorionic monoamniotic	Both Mch-100%
	1 (0.75%)	

MODE OF DELIVERY

Abortuses considered	Vaginal	81 (61.36%)
	Caesarean section	51 (38.63%)

BIRTH WEIGHT

Birth weight	1st twin	2nd twin	Total percentage
<1500gms	25(9.4%)	34(12.87%)	22.34%
1500-2500gms	92(34.85%)	94(35.6%)	70.45%
>2500gms	12(4.55%)	7(2.65%)	7.19%

Second twin weight is more in 128 fetuses when compared to first twin (117) whereas 1st twin weight is more in 12 cases when compared to 2nd twin

FETAL COMPLICATIONS (132cases)

Fetal complications	No. of cases
Abortions	6
Congenital anomalies	2
Oligohydramnios	4
Hydramnios	5
IUGR	1
IUD's- term & preterm	3
Single fetal demise	11
Preterm births	52

INDICATIONS FOR LSCS

INDICATIONS	NUMBER OF CASES
Hypertensive disorders	Preeclampsia-13, Eclampsia-3, Gestational hypertension-4
PROM	1
obstructed labor	1
1st twin non vertex	6
Oligohydramnios	2
Prior LSCS	23
Central placenta previa	1
Rh negative pregnancy	1

Compound presentation	1
Precious pregnancy	1
C/S for 2nd twin(cervix os closed with abruption)	1

More than one indication present in some cases.

MODE OF DELIVERY AND FETAL OUTCOME

Gestational age	Mode of delivery	5mts.A PGAR		Single fetal demise		Both dead fetuses			
		1 st twin	2 nd twin	1 st twin	2 nd twin				
		good	poor	good	Poor				
Term	Vaginal delivery-36	32	3	31	2	-	2	1	
	Caesarean section-38	37	1	35	1	-	2		
preterm	Vaginal delivery-39	32	4	27	9	2	2	1	
	Caesarean section-13	9	2	4	6	1	2	1	
2 nd trimester abortions		6			6				

DISCUSSION:

Among the 8896 deliveries multiple gestation was found in 136 cases among which twins were 132 cases (1 in 67) & triplets were 4 (1 in 2224) cases respectively. Triplets were considered for incidence only. When gestational age is analysed, cases seen around term & preterm deliveries were 84.85% & < 28 weeks were only 15.15% cases. Cephalic-cephalic is the commonest presentation (45.23%). Other common presentations were cephalic-breech, breech-cephalic. Dichorionic diamniotic were common. Both fetuses male sex were predominantly found in dichorionic diamniotic pregnancies, whereas both sexes were found with equal incidence in monochorionic monoamniotic twins. The common mode of delivery was vaginal. *In 6 cases of non vertex first twin, C/S was done.* Out of 51 C/S for multiple pregnancy, 23 cases were due to prior C/S, others being due to other causes. *C/S for 2nd twin was done in only one case due to abruption with closed cervical os.* VBAC was allowed in 3 preterm cases. Preterm births occurred in 63 cases among which 6 were 2nd trimester abortions, IUD of both premature fetuses occur in 2 cases & in 1 term pregnancies. Single fetal demise was found in 11 cases out of which 8 were 2nd twin IUDs. 1st twin IUDs seen in 3 preterm babies only. Two cases of congenital anomalies were encountered both of them were anencephaly in dichorionic diamniotic twins. 6 cases of multiple pregnancies aborted in 2nd trimester. For term multiple gestation fetal outcome was almost equal in both vaginal & caesarean section deliveries. For preterm deliveries 2nd twin had poor APGAR scores (<7) both in vaginal & caesarean deliveries. Single fetal demise of 2nd twin found in 4 cases of term deliveries irrespective of mode of delivery. Among preterm deliveries, single fetal demise of 1st & 2nd twin was almost equal. IUDs of both fetuses found more in preterm deliveries. Though 5 min. APGAR scores in preterm babies were good perinatal mortality was more in preterm babies due to prematurity. When birth interval between twins is more than 15mts., APGAR scores were poor. Preterm babies of birth weight <1500gms. & term babies of <2000gms. had poor APGAR scores.

CONCLUSION:

Twin gestation can go upto term, usually ends by 38 weeks of gestation. It is rare to go beyond 40 weeks of gestation. There is increased incidence of induced or spontaneous abortions or preterm deliveries for other obstetric indications. In term deliveries, APGAR scores not affected by mode of delivery & 2nd twin is at risk of single fetal demise or poor APGAR scores. Preterm deliveries are at risk of poor APGAR score of 2nd twin, single fetal demise, congenital anomalies, IUD or IUGR.

References:

1. D'Alton ME: Delivery of the second twin. *ObstetGynecol* 115(2):221, 2010
2. Ford AA, Bateman BT, Simpson LL: Vaginal birth after cesarean delivery in twin gestations: a large, nationwide sample of deliveries. *AmJObstetGynecol* 195:1138, 2006
3. Fox NS, Roman AS, Saltzman DH, et al: Risk factors for preeclampsia in twin pregnancies. *AmJPerinatol* 31(2):163, 2014
4. Fox NS, Silverstein M, Bender S, et al: Active second-stage management in twin pregnancies undergoing planned vaginal delivery in a U.S. population. *ObstetGynecol* 115:229, 2010
5. Gourheux N, Deruelle P, Houfflin-Debarge V, et al: Twin-to-twin delivery interval: is a time limit justified? *GynecolObstetFertil* 35(10):982, 2007
6. Greene MF: Comment on: A randomized trial of planned cesarean or vaginal delivery for twin pregnancy. *N Engl J Med* 369(14):1365, 2013
7. Hack KE, Derks JB, Elias SG, et al: Increased perinatal mortality and morbidity in monochorionic versus dichorionic twin pregnancies: clinical implications of a large Dutch cohort study. *BJOG* 115:58, 2008
8. Hoffmann E, Oldenburg A, Rode L, et al: Twin births: cesarean section or vaginal delivery? *ActaObstetGynecolScand* 91(4):463, 2012
9. Leftwich HK, Zaki MN, Wilkins I, et al: Labor patterns in twin gestations. *AmJObstetGynecol* 209(3):254.e1, 2013
10. Rossi AC, Mullin PM, Chmait RH: Neonatal outcomes of twins according to birth order, presentation and mode of delivery: a systematic review and meta-analysis. *BJOG* 118(5):523, 2011
11. Thorngren-Jerneck K, Herbst A: Low 5-minute Apgar score: a population-based register study of 1 million term births. *ObstetGynecol* 98(1):65, 2000.