

Outcome of Twin Pregnancy in a Periurban Hospital

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Abstract:

Objective: To determine the socio demographic characteristics, clinical presentation and obstetric outcome at delivery and immediate postpartum period of twin gestation in a periurban hospital

Material & Methods: An observational study was conducted between January 2000 to December 2004 at Institute of Child and Mother Health. All twin pregnancy irrespective of gestational age admitted in the in-patient department of Institute of Child and Mother Health for delivery and also those undiagnosed cases found to have twin birth were enrolled in the study consecutively from January 2001 to December 2004. Data on socio-demographic factors, predisposing factors for twin gestation and obstetric characteristics was collected using a structured questionnaire. Hospital records were consulted for recording the investigation reports and management options. The outcome variables were maternal complications during antenatal, intranatal and immediate postnatal period, mode of delivery, birth weight and sex of newborn and fetal outcome. All twin pregnancies from the admitted obstetric patients were enrolled consecutively

Results: During the study period there were 11,185 deliveries and among them 107 were twin gestation. About 22% were primigravida, 78.5% multigravida, 27.1% were illiterate. Most common age group were 24-29 years (39.4%). Antenatal care was availed by 71% of patients and 27.1% twins were not diagnosed till delivery. Family history of twin on maternal side was present in 58.1% and 31.8% had history of taking oral contraceptive immediately before the pregnancy. Ovulation inducing agents were given to 8.3% of twin.

Presentations of fetus were both vertex 54.2%, 1st vertex and second breech 16%, and both breech 5.7%. About 55.1% were admitted with labor pain, 6.5% were undelivered second twin. Preterm birth was 27.2% and low birth weight of 1st baby 79.6% and second baby 80.9% respectively. Mode of delivery was vaginal delivery of both fetus 41.6%, caesarean section of both fetus 62.4%, and caesarean for second twin 3.1%. Same sex of both twins was found in 78% and male-male pair was 50%. There was one stillbirth, one conjoined twin and perinatal death was 11.2%. Complications encountered during perinatal period were severe abdominal pain 9.3%, retained placenta in 7.3%; and post partum hemorrhage in 4.6% cases.

Conclusion: Twin pregnancy is quite common and warrants specialized care during ante partum, intrapartum and postpartum period.

Key words: Twin, presentation, perinatal complication,

Introduction:

Twin pregnancy has aroused curiosity and attention for generations. In some traditional societies twins were believed to be supernatural origin and considered fragile and threatened by misfortune¹. Multiple pregnancies are recognized as associated

with increased incidence of adverse pregnancy outcome with significant management challenges and require special medical care². Low birth weight and prematurity are the main causes of perinatal mortality and malpresentation of one or both babies occurs in about 60% of twin pregnancies³. Studies have shown

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an 8 fold increase in the neonatal mortality between twins and singletons in Nepal and 5 times higher in Bangladesh^{4,5}.

Twin gestation make up approximately 1% of all pregnancies, however, in some developed countries the incidence has increased³. In the United States, between 1980 and 1997, the twin gestation rate increased by 42%⁶. In Canada multiple births increased from 18.2 to 25 per 1000 deliveries between 1974 to 1997⁷. The rising trend in multiple gestation, especially in higher order multiple gestation, has been attributed to the increased use of ovulation inducing agents, use of assisted reproductive technologies, and a shift toward bearing children at older maternal ages when multiple gestation are more likely to occur naturally⁷. It is said that as FSH levels start to increase around a decade before the onset of the menopause, women aged 35 or more may have multiple follicle growth. When these women have good quality oocytes, the chance to become pregnant with dizygotic twins is increased⁸.

Multiple pregnancies are recognized as high risk pregnancy that is associated with increased risk for both maternal and fetal morbidity and mortality⁹. Overall 55% of twin versus 10% singletons are born at < 37 weeks and twins accounts for 10-12% of all preterm births¹⁰. Children born multiple births are more than six times likely to die during first year of life as children born singleton¹¹.

Twinning rate appear to vary substantially across geographical areas and ethnicity with higher rates among black and lowest rate in Asia⁴. Study from Bangladesh and Nepal has shown a rate of 9 and 16.1 per 1000 pregnancies respectively^{4,5}. Evidence from Bangladesh, rural India and Nepal shows that rates of twinning increase with increasing parity and it was highest among women 35 years and over^{4, 5, 12}.

The purpose of the study was to determine the socio demographic characteristics, clinical presentation and outcome at delivery and immediate postpartum of twin gestation in a periurban hospital.

Method:

This was a cross sectional observational study. All twin pregnancy irrespective of gestational age admitted in the in-patient department of Institute of Child and Mother Health for delivery and also those undiagnosed cases found to have twin birth was enrolled in the study consecutively from January 2001 to December

2004. Data on socio-demographic factors, predisposing factors for twin gestation and obstetric characteristics was collected using a structured questionnaire. Hospital records were consulted for recording the investigation reports and management options. The outcome variables were maternal complications during antenatal, intranatal and immediate postnatal period, mode of delivery, birth weight and sex of newborn and fetal outcome. Data was analyzed using SPSS program.

Results:

During the study period total 11,185 deliveries took place in the hospital, among them twin delivery was 107, so the prevalence was 0.95%. Mean age of the patients was 24.9± 4.4 yrs (range 16-39 years), and 77.5% belonged to 20-30 years, 67.2% reside in own house, 41% completed primary school, 21.4% had consanguineous marriage and 35.5% had twins in the family (Table I). Majority were multipara (78.5%), 71% had antenatal care in current

Table-I
Sociodemographic profile of the respondents

Characteristics	Number	Percentage
Age		
< 20 yrs	12	11.2
20-30 yrs	83	77.5
Resides in own house	72	67.2
Resides in a rented house	35	32.7
Income generation by self	12	11.2
Illiterate	29	27.1
Completed primary school	44	41
Completed secondary school	34	31.7
H/o consanguineous marriage	21	21.4

pregnancy, 27.1% were first diagnosed at the time of delivery and 55% admitted with labor pain (Table-II). Most common complication during pregnancy was pain in abdomen 58.8%, next was high blood pressure 30.8% (Table-III). Over half (54.2%) were vertex-vertex presentation, next was first vertex and second breech (Table-IV). Preterm labour (29-36 weeks) was 27.2%, 5.6% ended up as abortion and 6.5% were undelivered second twin (Table-V). Mean birth weight 1.9± 0.78 and 1.8± 0.73 Kg for 1st and 2nd baby respectively and low birth weight was 80 % (Table-VI). Most common mode of delivery was caesarean section 62.4% (Figure 1). Sex distribution shows 78% of the pair belonged to same sex and ratio of

Table-II
Distribution according to Obstetric characteristics

Characteristics	Number	Percentage
Primigravida	23	21.5
Multi gravida	84	78.5
Antenatal check up in current pregnancy	76	71
Diagnosis made by USG before admission	78	72.9
Diagnosed at the time of delivery	29	27.1
H/o taking ovulation induction drug	10	9.3
Admission with labor pain	58	54.7
Admission for delivery without labor pain	29	27.4
H/O Twin in the family	38	35.5
Use of oral contraceptive immediately before pregnancy	34	31.8

Table-III
Distribution according Complication during pregnancy

Complication	No	%
Excessive vomiting	26	24.2
Pain in abdomen	63	58.8
High BP	33	30.8
APH	5	4.6
Breathlessness	23	21.4
PET	15	14.0
Others	8	7.4

Table-IV
Distribution according to Presentation of fetuses (n-107)

Presentation	No	%
1 st VX & 2 nd Breech	17	15.9
Both Vertex	58	54.2
1 st Breech & 2 nd VX	16	14.9
Both Breech	6	5.7
Other	8	7.6

Table-V
Distribution according to Pregnancy outcome

Characteristics	Number	Percentage
Abortion	6	5.6
Preterm labour (29-36 weeks)	28	27.2
Term labour	75	72.8
Undelivered second twin	8	6.5

Table-VI
Distribution according to birth weight

Presentation	Birth weight < 2.5 Kg		Birth weight > 2.5 Kg	
	No	%	No	%
1 st Twin	74	79.6	19	20.4
2 nd Twin	76	80.9	18	19.1

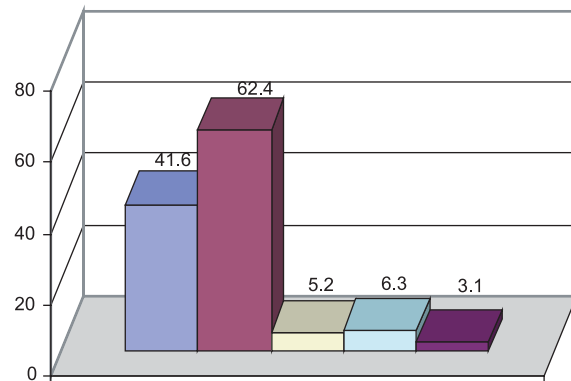
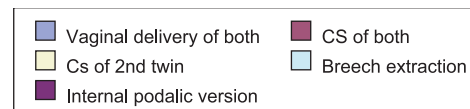


Fig.-1: *Percent Distribution according to mode of delivery*

male to female was 1.5: 1 and 1.65:1 for first and second twin respectively (Figure 2). There was one stillbirth, one conjoined twin and twelve perinatal death (11.2%). Breast milk was given as first food in 86.9% and 85% were exclusively breastfed at the time of discharge (Table-VII). Common post natal complications were severe abdominal pain 9.3%, 7.3%

had retained placenta, post partum hemorrhage 4.6%, and urinary complain in 7.3% (Table-VIII).

Table-VII
Distribution according to fetal outcome

Outcome	No	%
Healthy New born	93	86.9
Still Birth	1	0.65
Perinatal death	12	11.2
Breast milk given as first food	93	86.9
EBF at discharge	91	85
Conjoined twin	1	0.65

Table-VIII
Distribution according to early post natal complication

Complication	Number	%
Sever Pain in abdomen	10	9.3
Retained Placenta	8	7.3
PPH	5	4.6
Fever > 100.4 ⁰ F	3	2.8
Urinary complain	8	7.3
Wound infection	2	1.8
Bowel problem	2	1.8
Breast problem	4	3.7
Others	7	6.5

Discussion:

The prevalence of twinning in this study was 9.5 per 1000 delivery which is little bit higher than that reported from previous study in Bangladesh that shows the incidence of twin birth over a period of 16 years vary between 7.8 and 11.2 per thousand live births⁴. It is said that twinning rate in hospital based studies may be higher than would be observed in the population since twins would be more likely to deliver at hospitals⁵. Twin rate in rural community of India and Thailand was reported to be 9.01 and 8.6 per 1000 delivery respectively^{12,13}. In Denmark between 1980-94 the twinning rate was reported to be 12.1 per 1000 pregnancies and there was history of use of ovulation induction and advanced reproduction technique in about a quarter of multiple births¹⁴.

The age distribution of our study shows maximum twin pregnancy belonged to 20-30 years indicating social norm of early marriage and childbearing. According to Bangladesh Demographic and Health Survey 2004 data, about 2 % of children are of

multiple births, two thirds (63%) of the births to aged 13-24 years and 31 % to mother aged 25-34 years¹⁵. Some studies has found that twinning among mothers over 35 years was 2 times higher than for mothers younger than 20 years¹⁶. Evidence from Bangladesh shows twinning rate among mothers over 35 years was about 3 times higher than for mothers younger than 20 years⁵. In India twinning rate between 30-34 years was 10 times higher than for mothers younger than 20 years¹².

In our study 72.9% were diagnosed antenatally through USG indicating better availability and awareness to use the technology. Perinatal mortality was found to be higher among the group in which diagnosis of twin was not done during antenatal period indicating need for special preparation for conducting twin deliveries¹².

Mode of delivery in twin gestation represents a dilemma as twin are at a higher risk than singletons for preinatal morbidity and mortality^{9,13}. The greatest danger exist for the second twin especially those in a non vertex presentation¹⁶. Prior to 1970 standard obstetric practice was management of twin labor according to the presentation of the first twin with delivery maneuver appropriate to deliver second twin¹⁷. In 1976 it was recommended that to improve neonatal outcome caesarean delivery of all twins should be performed if one twin was in non vertex presentation¹⁷. The SOGC and ACOG both recommend vaginal delivery for non vertex second twin as long as criteria for vaginal breech delivery are met¹⁷. Some studies have demonstrated that there was no significant difference in neonatal morbidity or mortality between vaginally delivered and cesarean group for non vertex second twin¹⁸.

Presentation at delivery of twins was mostly in vertex-vertex presentation which was similar to the previous studies¹³. However, Caesarean section was the most common route of delivery and this finding was similar to other studies⁹. In a recent study from Austria 78% had vaginal birth of both twins, 17% had caesarean section for both and in 5% women the second twin had to be delivered by caesarean section after vaginal delivery of first twin¹⁸. A policy of planned CS may result in a reduced incidence of a low 5 minute Apgar score when twin A is breech. However, there is also higher risk of respiratory distress syndrome and transient tachypnoea in newborn delivered by CS than in those delivered

vaginally¹⁷. Twins with vertex –breech presentation delivered by caesarean-caesarean had a lower neonatal mortality compared to those delivered vaginal-vaginal (1.6 vs. 2 per 1000 twin live births) respectively¹⁹.

Low birth weight was the most common neonatal complication (80%) which is much higher than the study from Thailand (62.3%)¹³. It has been shown that preterm birth and low birth weight is significantly higher in twin pregnancy of women aged 25-29 years than in women aged 35 years or older²⁰. So the increased low birth weight might be a reflection of poor maternal nutritional status and younger age group.

Conclusion:

Twin pregnancy is common among multipara and associated with low birth weight infants, high rate of caesarean section and perinatal mortality. It warrants a vigilant care for early recognition during prenatal visits and management by adequately trained personnel during antenatal, intranatal and postpartum period for better outcome.

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