

# A Study on Maternal Risks and Perinatal Outcome of Twin Pregnancy in Tertiary Care Hospital

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**Abstract:** *Introduction:* Twin pregnancy is associated with more pregnancy complications and poorer pregnancy outcome than singleton pregnancy. *Aim:* To evaluate the maternal and fetal complications in twin pregnancy. *Materials and methods:* 100 twin pregnancies were studied over a period of 6 months to evaluate complications to the mother and both fetuses. Data obtained at the time of delivery included type of twins, gestational age at the time of delivery, maternal co morbidities, mode of delivery and fetal complications. *Results:* Among 100 twin pregnancies, 66% was DCDA twin. Majority of the women gestational age 34-37 weeks. The most frequent maternal complication was preterm labour 68%, anemia 50%. PIH 18%. Fetal complications include low birth weight (80%), preterm deliveries (68%) asphyxia 40% and IUGR 15%, twin growth discordance 2%. *Conclusion:* Twin pregnancies are significant risk factor for maternal and fetal complications.

## 1. Introduction

Twin pregnancy is considered as a high risk pregnancy. The worldwide incidence of multiple pregnancies is around 2-20 per 1000 births. Twin pregnancy is due to multiple factors mainly genetic and environmental factors such as advanced maternal age and increased parity. In India, twin pregnancy occurs in 1% all pregnancies and has been found to be responsible for 10% of perinatal mortality. The incidence of twins is rising due to the increased use of assisted reproductive techniques and due to the pregnancy at advanced age. Twin pregnancy has been associated with many maternal complications such as anemia, hyperemesis, gestational hypertension, antepartum haemorrhage, preterm labour, polyhydramnios, gestational diabetes. Fetus are at the increased risk of preterm labour, discordant growth, fetal malformations, cord complications and still births. Diagnosis of twin pregnancy in early gestation by ultrasonography can aware the obstetrician regarding need for more vigilance during antenatal period as well it helps in counseling the patient possibility of adverse perinatal outcome. Present study was undertaken to analyze the maternal and fetal outcome in twin pregnancy and to find out various factors that contribute to adverse perinatal outcome.

## 2. Materials and Methods

This observational study was carried out in the department of Obstetrics and Gynaecology of Government Rajaji hospital, Madurai over a period of 9 months from august 2018 till April 2019. All women with twin pregnancy admitted during antenatal period or during labour were enrolled in the study. They were followed throughout the pregnancy till delivery. Mother and baby were followed up till discharge from the hospital. Data related to maternal age, gestational age, parity, maternal medical and obstetrical complications, sonographic parameters like chorionicity, expected fetal weight, fetal discordancy, fetal viability, malformations, evidence of abnormal vascular communications and presentations of both fetuses was collected in a structured proforma. Mode of delivery, intrapartum and postpartum complications,

requirement of blood transfusion, neonatal outcomes in terms of birth weight, NICU admission and perinatal death were recorded.

## 3. Results

- 1) Out of 100 women maximum numbers of women were in the age group of 21-25 yrs (58%). The following tables show demographic and obstetric profile of the patients.

Age	Number/Percentage
<20YRS	8
21-25YRS	58
26-30YRS	26
30-35YRS	8

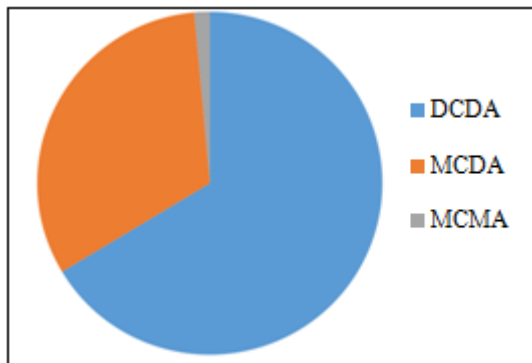
- 2) Twins were seen almost equally among primi (51%) and multigravidas (49%)

Parity	Percentage
Primigravida	51
Multigravida	49

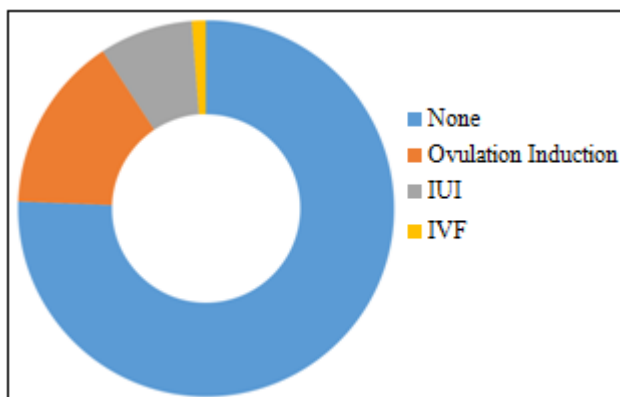
- 3) Gestational age distribution

Gestational age	Percentage
37weeks –term	38
34 weeks- 37weeks	44
28 weeks-34 weeks	12
< 28 weeks	6

- 4) With respect to chorionicity, 66% of women were dichorionic, 32% were monochorionic-diamnionic and 2% were monochorionic monoamniotic.



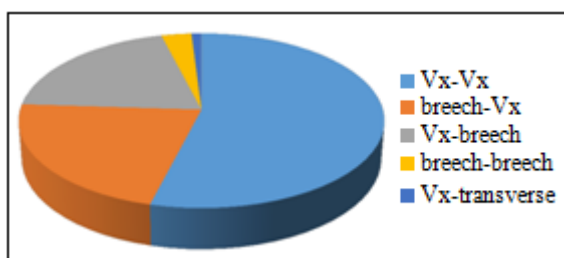
5) Underlining probable causative factors for twinning was revealed to be conception after intake of ovulation induction in 15%, after intrauterine implantation in 8%, after IVF in 2%.



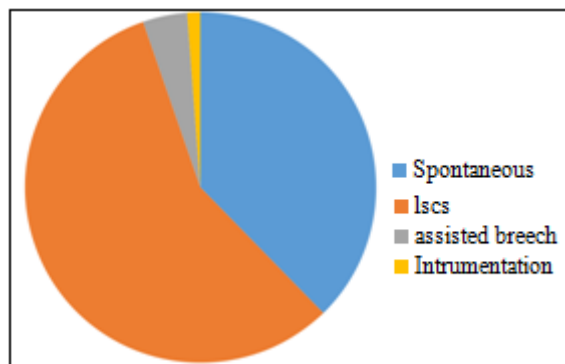
6) Preterm labour was the most common maternal complications of twin pregnancy (68%); followed by anaemia encountered in 50%. 18% were complicated by gestational hypertension. 28% patients had premature rupture of membranes. Antepartum and postpartum encountered in 12% and 15% cases respectively.

Complication	Percentage
Preterm Labour	68
Anaemia	50
Hypertension	18
Gestational Diabetes	6
PROM	25
APH	12
PPH	15

7) Vertex-vertex fetal presentation was most common presentation at delivery (54%), breech-vertex, (22%), vertex-breech (20%), breech-breech (3%), vertex-transverse (1%)



8) The most frequent mode of delivery was cesarean section (56%). Malpresentation is one of the main indications for casarean delivery. Spontaneous delivery was observed only in 37% patients



9) Delivery Interval between 1st and 2nd twin was <15min in 86%

Interval	Percentage
<15 min	86
>15 min	14

10)The most Common cause of perinatal morbidity is prematurity and low birth weight.

Conditions	Percentage
Low Birth Weight	80
Prematurity	68
ASPHYXIA	40
IUGR	15
Twin Growth Discordance	8
TTS	2
Congenital Malformation	2

11)Fetal outcome at birth

Live Birth	192
IUD	5
Single Fetal Demise	3

12)NICU Admission

Admission	Percentage
Twin 1	60
Twin 2	66
Neonatal Mortality	8

13)Comparision of APGAR scores between first and second coming twins.

APGAR Score	TWIN 1	TWIN 2
< 7 at 1 min	28	40
>7 at 1 min	72	60

APGAR score <7 at 1 min was seen in 34% newborns, which was 41.2 % was reported in first twin and 58.8% in second twin.

#### 4. Discussion

Twin pregnancies are high risk pregnancies requiring special care and multidisciplinary approach towards their management. Increased incidence of multiple pregnancies in recent years can be attributed towards disseminated use of assisted reproductive techniques as 15% patient in our study had achieved after treatment for infertility with ovulation

induction. 8 patients had conceived after IUI. 2 patients had conceived after IVF. Hence 25% patients in our study can be Labelled as cases of iatrogenic twinning. The finding was more than study by sultana et al<sup>i</sup> where iatrogenic twinning was 14%. majority of the women in present study were aged between 20-29 yrs, 83% which is similar to the findings obtained by bangal et al<sup>ii</sup> in his study which is the peak reproductive age group. 55% were aged between 20-29yrs in study conducted by spellacy et al.<sup>iii</sup>. Parity distribution shows no difference in our study, this is contrast to study done by chaudhary s<sup>iv</sup> and spellacy et al shows more than 70% are multigravida.

As compared to other studies, the average weeks of gestation are comparable with our study i.e 34weeks, as the average weeks of gestation among twins being 33 weeks by Erdemoglu et al<sup>v</sup> and 34 weeks by Yuel et al. placentation was determined by antenatal ultrasonography and inspection of placenta and membranes after birth. Dichorionic placentation was seen in majority (66%) in our study, which is comparable with erdemoglu et al (69%) and panwala et al (63.85). Vertex-vertex presentation at delivery was most common fetal presentation in present study (54%) and was to be consistent with another study by chowdhary et al (47.5%) and panwala et al<sup>vi</sup> (51.4%). Most frequent mode of delivery in our study was by lower segment cesarean section (56%). consistent to studies by chowdhury and sultana (49.1% and 56% respectively). The incidence of preterm delivery was much higher (68%) in the present study similar to the preterm rate in twin gestation reported (84%) by Bengal et al. the incidence of anemia in our study was 50%, which is also consistent with Bengal et al, 66%. The incidence of pregnancy induced hypertension in our study was 18%. Similar results were observed by Bengal et al as 18% and chowdhary who reported 22%. In our study the incidence of PROM in twin gestations 25% similar to study by mahit et al (18%). Incidence of PPH among twin gestation was 15%. Many studies have shown similar results, stock s and Norman J latin America<sup>vii</sup> and Singhakun<sup>viii</sup> with increased rate of occurrence of PPH in twin pregnancies.

The incidence of having a baby with a low birth weight ( less than 2.5kgs) was 80%, which was much higher than reported by AIHW,<sup>ix</sup> for twin pregnancies. Very similar incidence of LBW was quoted by Bangal et al. Twin Twin transfusion was seen in one patient, one baby expired in this. Birth asphyxia was reported in 40%, which was much higher among second twin (58%). Around 66% of the neonates required NICU admission owing to neonatal morbidity. Low birth weight and prematurity were the leading causes for perinatal morbidity in our study. Perinatal mortality in our study was 8%. There was no maternal mortality in present study. It is a well known fact that second twin is usually more compromising than the first one. Birth weight, apgar score at 1 min, NICU admission requirement was compared between 1<sup>st</sup> and 2<sup>nd</sup> twin. The incidence of 1 min APGAR < 7min among twin babies was 41.2% and second twin was 58.8% showing that low APGAR score was more common amongst the second of the twin. The incidence of birth hypoxia, perinatal deaths and NICU requirement increases as gestational age at delivery decreases. The same was noted in present study.

## 5. Conclusion

Multiple pregnancies are associated with higher maternal and fetal/ neonatal adverse outcomes. Early detection of high risk cases, timely referral, frequent antenatal visits and early hospitalization with good neonatal care set up are necessary to improve maternal and neonatal outcomes.

## References

- [1] Sultana H. Fetal and maternal outcome of twin pregnancy-A study of 50 Cases. college of physicians and surgeons.
- [2] Bangal VB, patel SM, khairnar DN. Stusy of maternal anf foetal outcome n twin gestation at tertiary care teaching hospital
- [3] Spellacy WN, Handler A, Ferre CD. A case control study of 1253 twin pregnancies.
- [4] Chowdhury s.clinical study in twin pregnancy, college of physicians and surgeons.
- [5] Erdemoglu M, retrospective analysis of multiple pregnancies
- [6] Panwala NM, Multiple pregnancy. A review of 116 case
- [7] Stock s, norman J preterm and term labour n multiple pregnancies
- [8] Singhakun D, Perinatal outcome of twin pregnancy
- [9] AIHW, 2011, Perinatal statistics series.