Original Article

To Study Obstetric Complications in Twin Pregnancy.

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Abstract

Background- Compared to a singleton pregnancy, a twin pregnancy is a relatively uncommon event significantly associated with higher maternal and fetal morbidity and mortality rates. Every obstetrician needs to be aware of the risks associated with twin pregnancies as well as how to manage these risks.

Aims and Objectives-To study obstetric complications in twin pregnancy.

Methods- A total of 106 patients with sonographically confirmed twin pregnancies who visited the antenatal care outpatient department (ANC OPD) and labor and delivery at a tertiary care hospital over the course of 24 months were enrolled in this study. They were then monitored through delivery and into the neonatal period.

Results- In this study, twin pregnancies were slightly more in multigravida. Around 56% were above 30 years of age, and DCDA twins were more common accounting for 76.4%. Major obstetric complications were anemia accounting for 52.83%, PIH which was 42.36%, and most of the deliveries were preterm which was seen among 87.7% of the total delivered.

Conclusion- Twin pregnancies are a high-risk factor for both the mother and the fetus. Regular ANC care and prompt action are necessary, to minimize and thus, prevent these obstetric complications.

Keywords: Twin pregnancy, obstetric complications, maternal morbidity.

INTRODUCTION

The female is designed by nature to produce only one egg, care for only one pregnancy at a time, and raise only one newborn. Compared to singletons, twin pregnancies are about 80% more likely to develop antepartum complications and admissions for anemia, preterm labor, preterm premature rupture of membranes (PPROM), hypertensive disorders, abruption placentae and postpartum bleeding or hemorrhage (PPH) are increased six-fold. Women with twin pregnancies are at increased risk for cardiac complications including myocardial infarction, pulmonary edema, gestational diabetes Mellitus (GDM), instrumental vaginal or operative cesarean delivery, obstetric hysterectomy, need for blood and blood product transfusion, longer hospital stay and the major causes of maternal mortality include- post-partum bleeding, venous thromboembolism, and severe preeclampsia. The etiology of twin complications occurs secondary to doubling of the placental mass, and thus the associated obstetric complications of preeclampsia and gestational diabetes mellitus. (1)

Pregnancies that result from assisted reproductive technology; dizygotic twins are far more common than monozygotic twins and account for 70 percent of all twin gestations. Whereas the instance of dizygotic twins is variable in different populations, the prevalence of monozygotic twinning is globally constant at 3 to 5 per thousand births. Except for post-term pregnancy and fetal macrosomia, all pregnancy-related complications are exaggerated in twins. Preterm birth is a prominent risk associated with twin gestation.

MATERIAL AND METHODLOGY.

A hospital-based observational study was conducted with 106 patients at a tertiary care center for 24 months, to study the various obstetrics (ante-natal and labor) complications in twin pregnancy.

Inclusion criteria:

1. All pregnant females registered or unregistered coming to OPD/ANC and Labor room with twin pregnancy

Exclusion criteria:

1. Patients unwilling to participate in the research or unable to give consent for the research.
2. Triplets or higher-order pregnancies.

RESULTS

TABLE 1: BASED ON MATERNAL AGE

Age of the mother (in years)	Frequency	Percent
19-25	20	18.86
25-30	26	24.52
30 and above	60	56.66
Total	106	100.0

In the present study, about 20 (18.86%) of the patients were between 19 to 25 years and 26 (24.52%) of the patients were between 25 to30 years and 60 (56.6%) were above 30 years

TABLE 2: DISTRIBUTION OF PARTICIPANTS BASED ON GRAVIDITY.

Gravidity	Frequency	Percent
Multigravida	61	57.5
Primigravida	45	42.5
Total	106	100.0

Out of 106 (100%) patients, most of the patients 61 (57.5%) were Multigravida and 45 (42.5%) patients were Primigravida.

TABLE 3: BASED ON GESTATIONAL AGE AT THE TIME OF DELIVERY.

Gestational age (in weeks)	Frequency	Percent
<28	4	3.8
29-32	8	7.5
33-37	81	76.4
37 and above	13	12.3
Total	106	100.0

In the present study, out of 106 (100%) patients, 81 (76.4%) of patients were between 33-37 weeks followed by 13 (12.3%) of the patients who were 37 and above weeks. 8 (7.5%) were between 29-32 weeks and 4 (3.8%) were less than 28 weeks of gestational age.

TABLE 4: BASED ON CHORIONICITY.

Chorionicity	Frequency	Percent
DCDA	81	76.4
MCDA	25	23.6
Total	106	100.0

DCDA (Dichorionic Diamniotic) was seen in 81 (76.4%) of the patients, while 25(23.6%) had MCDA (Monochorionic Diamniotic).

TABLE 5: BASED ON OBSTETRICS COMPLICATIONS.

OBSTETRICS COMPLICATIONS	Frequency	Percent
ANTE-NATAL COMPLICATIONS		
Anemia	56	52.83
PIH	45	42.36
GDM	26	24.52
Placental Abruption	7	6.6
LABOR COMPLICATIONS		
Preterm Delivery	93	87.70
Preterm PROM	20	18.86
Postpartum Haemorrhage (PPH)	16	15.09

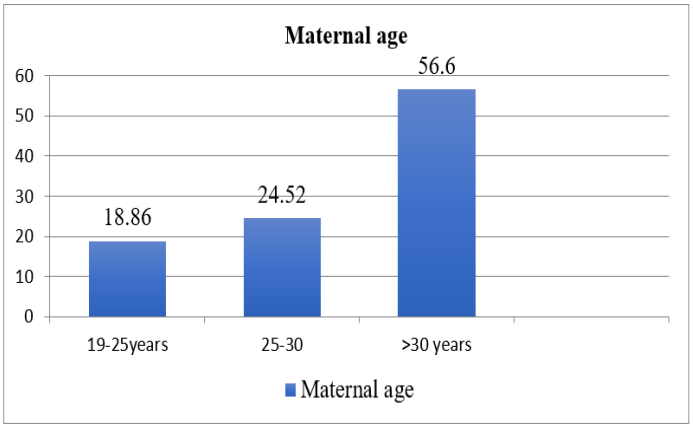
In the present study, the most common antenatal complication noted was anemia which was seen among 52.83% of cases followed by PIH which was seen in 42.36%, while 24.52% of patients had GDM.
Labor complications: Preterm deliveries were seen in 87.70% of cases, and 15.09 % of patients experienced PPH.

DISCUSSION

Twin gestation is a major challenge in health care and is related to an elevated risk of prenatal morbidity and mortality as well as obstetric complications. The increased rate of various obstetric complications in twin pregnancy emphasizes the need to study the incidence of these complications in various populations. All twin pregnancies have a higher risk of obstetrics and neonatal complication than those of singleton pregnancies, but chorionicity determines the prognosis of multiple gestations. Although Monochorionic twins account for only 20% of twin pregnancies, they account for 30% of all-cause pregnancy-related complications. [2,3]

MATERNAL AGE (TABLE 1)

In the present study out of 106 (100%) patients, about 20 (18.86%) of the patients were between 19 to 25 years and 26 (24.52%) of the patients were between 25 to30 years and 60 (56.6%) were above 30 years.



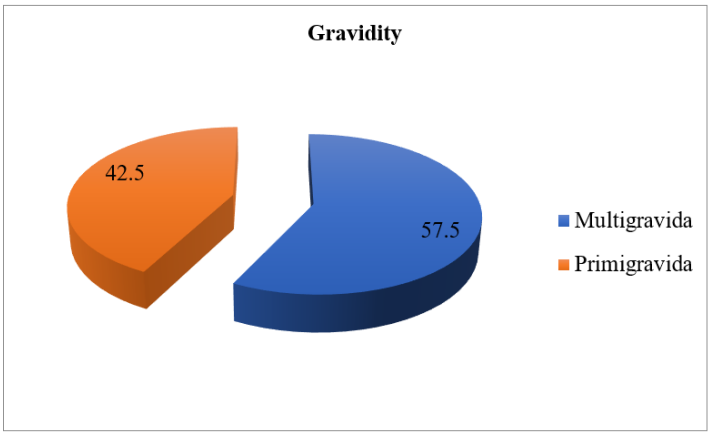
Extreme maternal age and twin pregnancies are independent risk factors for poor pregnancy outcomes. The likelihood of multiple gestations increases with increasing parity and fertility therapy, making twin pregnancies more common in women over the age of 35. Martin et al. discovered that the likelihood of twin pregnancies rises with age. [4]

A study in 2014 by Kagne et al., found that 66.1% of cases of twin pregnancies occurred in women between the ages of 20 and 24, while 30.5% occurred in women between the ages of 25 and 30. However, only 3.4% of cases included people older than 30 years old. [6]

Another similar study conducted by Amelia S. McLennan et al., in 2017 found that Out of all twin births, 19.8% to women 18–24, 26.1% to women 25–29, 29.6% to women 30–34, 17.5% to women 35–39, and 5.9% to women ≥40. [5]

DISTRIBUTION BASED ON GRAVIDITY (TABLE 2)

Out of 106 (100%) patients, most of the patients 61 (57.5%) were Multigravida and 45 (42.5%) patients were Primigravida.



These results are in agreement with the study of Kagne et al., 44.1% were primigravida where as 55.9% were multigravida. [6]

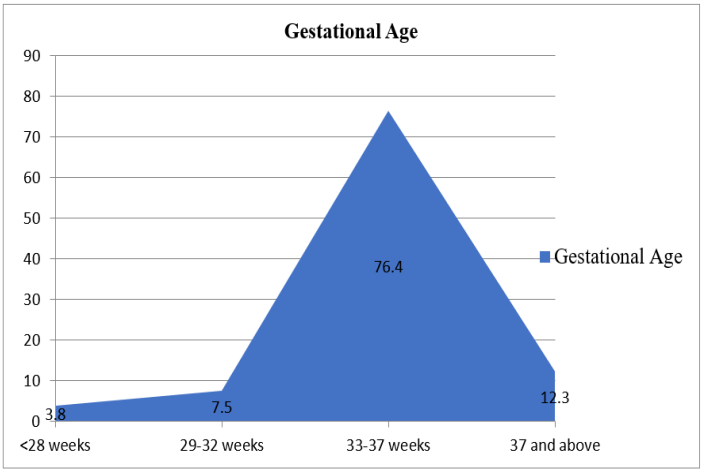
A retrospective hospital record-based study was conducted by Upreti in 2018, to determine the prevalence and outcome of twin pregnancies at a Uttarakhand tertiary health center. Data on the age, parity, registration status, age at gestation, fetal appearance, delivery method, pregnancy issues, neonatal outcome, and fetal of women who delivered twins were gathered and evaluated. Twin pregnancies were determined to occur 1 in 52 times, or 1.9%, of all pregnancies. The age of 21 to 25 years made up the majority of the patients (56.4%), while 52.8% were multigravida. [7]

GESTATIONAL AGE AT THE TIME OF DELIVERY (TABLE 3):

In the present study, out of 106 (100%) patients, 81 (76.4%) of patients were between 33-37 weeks followed by 13 (12.3%) of the patients who were 37 and above weeks. 8 (7.5%) were between 29-32 weeks and 4 (3.8%) were less than 28 weeks of gestational age.

In the study conducted by Kagne et al., the rate of preterm delivery was 77.9% of which 17% were delivered before 28 completed weeks, another 17% were between 28-32 weeks while 44% of deliveries were between 32-37 weeks, while the remainder delivered at term accounting for 22.1%. (6)

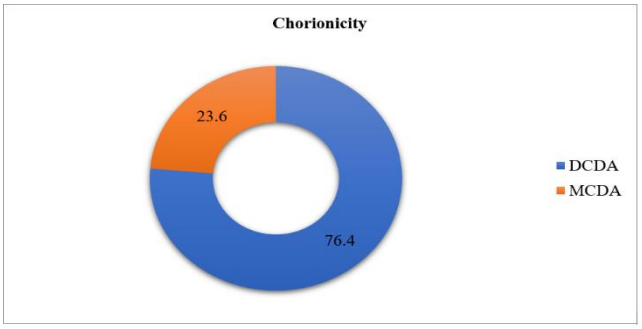
Other studies showed that preterm births occurred more frequently (74%) in Gajera et al., the study compared to ours and Chowdhury et al., (44%) (8,9). The rate stated by Bangal et al. was significantly higher. (88%). (10)



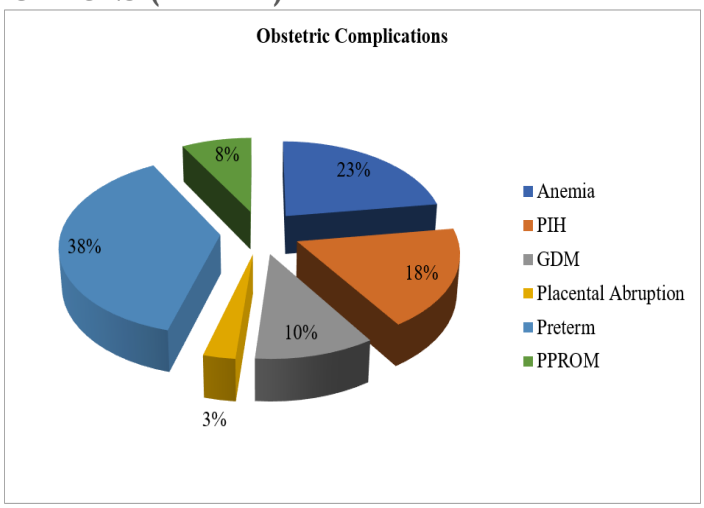
CHORIONICITY (TABLE 4)

Out of 106 (100%), about 81 (76.4%) of the patients had DCDA (Dichorionic Diamniotic) majorly and 25(23.6%) had MCDA (Monochorionic Diamniotic).

A study by Ozler and Gumus Guler in 2019, revealed that out of 56 twins, 48 (85.7%) of all twins were dichorionic diamniotic (DCDA), 7 of them (12.5%) were monochorionic diamniotic (MCDA), and 1 of them (1.78%) was monochorionic monoamniotic (MCMA). (11)



OBSTETRICS COMPLICATIONS (Table 5)



ANTE-NATAL COMPLICATION:

PIH (Pregnancy Induced Hypertension)

In the present study, the patients were distributed based on the obstetric complications, and among 106 (100%) patients, PIH was seen in 45 (42.36%) of the patients.

Hypertensive disorders were found to be in 30% and 24 % of patients in Bhalla et al and Gajera et al. studies respectively. (8,12)

GDM (Gestational Diabetes Mellitus)

In the present study, gestational diabetes mellitus was seen among 26 (24.52) % of the patients.6% of the patients had gestational diabetes in Bhalla et al. (12)

ANEMIA

52.83% of the patients had anemia and it was the most common ante-natal complication noted in the present study.

In Kagne et al study, 47.6% of patients had anemia, of which 34% had mild anemia, 10.2% had moderate anemia, and 3.4% were having severe anemia necessitating blood transfusions. (6) Bhalla et al. reported anemia in 62% of patients. (12)

According to Aziz and Soomro, cause extremely high rates of anemia in women with low socioeconomic profiles, with 18.48% of patients having severe anemia. [14]

PLACENTAL ABRUPTION

In the present study, among 106 (100%) patients, placental abruption was present in 7 (6.6%) of the patients. About 16 % of the patients had placental abruption in the study of Bhalla et al. [8]

LABOR COMPLICATIONS:

PPROM (PRETERM PREMATURE RUPTURE OF MEMBRANES**)**

The patients were distributed based on preterm premature rupture of membranes (PROM), out of 106 (100%) patients the PPROM was present in 20 (18.86%) of the patients.

When compared to Kagne et al. our study shows a greater number of PPROM. [8]6.8% of patients experienced membrane rupture, of whom 5.1% had PPROM and 1.7% had PROM. [8]

POSTPARTUM HEMORRHAGE

In the present study, 16 (15.09%) mothers experienced PPH. A study by Anita Sharma and Sarojini et al found that the incidence of PPH in twin gestation was 13.92 percent and 8 percent respectively. [15, 16]

CONCLUSION

- In the present prospective observational study, we observed an increase in maternal complications like preterm labor, anemia, PIH, and PPH among twin pregnancies, which requires special attention.
- Obstetricians should be aware of the challenges that may arise during antenatal, labor, and postpartum while dealing with a twin pregnancy. With proper training and recognition of these issues, obstetricians should help twin gestation women to achieve a safe delivery.
- Additional research on the topic would be appropriate, especially to ascertain whether specialist obstetric and neonatal care might reduce the likelihood of specific issues and hence improve maternal and perinatal outcomes.

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