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Original Research Article

# Retrospective Study of Pregnancy Outcome in Twin Pregnancy with One Fetal Demise

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**Abstract:**

**Aims and Objectives:** To study pregnancy outcomes in women with twin pregnancies with one fetal demise from a period of March 2022 to February 2023.

**Materials and Method:** It is a prospective study at Nalanda Medical College and Hospital, Patna. Total number of pregnant women with twin pregnancies with one fetal demise was taken in this study. Both live and dead fetuses were followed up till term and their pregnancy outcomes were studied.

**Results:** Out of 2477 pregnant patients; 152 had twin pregnancies. Out of this, 8 had twin pregnancies with one fetal demise. Out of these 8 patients, in 4 patients, demise was detected in first trimester.1 patient came in second trimester. Rest 3 patients came in third trimester for their first visit. Of the 4 patients who reported fetal demise in first trimester, all patients delivered healthy babies compared to those who came in other trimesters. Out of these 4 patients who reported in third and second trimesters, 1 patient delivered premature baby, 2 patients had i.u.g.r. baby and 1 patient developed preeclamptic symptoms.

**Discussions:** The incidence of single fetal death in twin pregnancies is reported to be as high as 2.5 to 6% compared to 0.3% to 0.6% in singleton pregnancies. Intrauterine single death can occur at any gestational age. If this happens in first trimester of pregnancy, surviving twin will most likely develop without further consequences. However, if fetal death occurs after mid-gestation, this is associated with increased rate of preterm labor, iugr, preeclampsia, and perinatal mortality.



## Introduction

**Objective:** To study pregnancy outcomes in women with twin pregnancies with one fetal demise from a period of March 2022 to February 2023.

**Introduction:** Simultaneous development of two fetuses in the uterus is the most common variety of multiple pregnancies, i.e., twin pregnancy. Fetal loss of a fetus among twin pregnancy is not an uncommon event. Its incidence ranges from 0.5% to 6.8%. In general, chorionicity rather than zygosity determines the risk of mortality and morbidity in fetuses. Determining the type of placentation in early pregnancy by ultrasonography can help in predicting the outcome. Loss of one twin in the first trimester does not impair the development of surviving twin. However, if fetal death occurring after mid gestation (17 weeks gestation) may increases the risk of IUGR, pre - term labour, pre-eclampsia and perinatal mortality. The cause of fetal death vary and include twin-twin transfusion syndrome, placental insufficiency, IUGR related to pre-eclampsia, velamentous insertion of cord etc… The Perinatal mortality of monochorionic twin pregnancy is double to that of dichorionic twin pregnancies. The prevalence of monochorionicity in single intrauterine death in twins is 50-70%. When fetal demise occurs after mid-gestation, there is 17% chance that the "surviving twin" in a monochorionic gestation will either die or suffer major morbidity. Major morbidity is unlikely to occur in surviving twin of a dichorionic gestation.

## Materials & Methods

Type of study: prospective observational study. Duration of study: 1 year (March 2022 to February 2023), at a tertiary care center, Patna. Over a period of 1 year, total two thousand four hundred and seventy-seven pregnant patients reported for ante-natal checkups. Out of which one hundred and fifty-two were carrying twin pregnancy. Out of these hundred and fifty-two, eight patients had complication of single fetal demise. These eight women were followed till delivery with maternal investigations and fetal surveillance.

**Maternal Monitoring:** All routine antenatal investigations like CBC, ABO Rh typing, routine urine and microscopy viral markers, blood sugar thyroid profile. Coagulation profile: biweekly in patients reported in third trimester. FDP&D-dimer.

**Fetal Monitoring:** Daily fetal movement count. Biweekly NST in pregnancies more than 32 weeks. Fortnightly USG in patient presented in first and second trimester. Biweekly USG with color Doppler in patient reported in third trimester.

**Inclusion Criteria:**

All pregnant patients diagnosed with twin pregnancy. Patient reported first time either in first, second and third trimester.

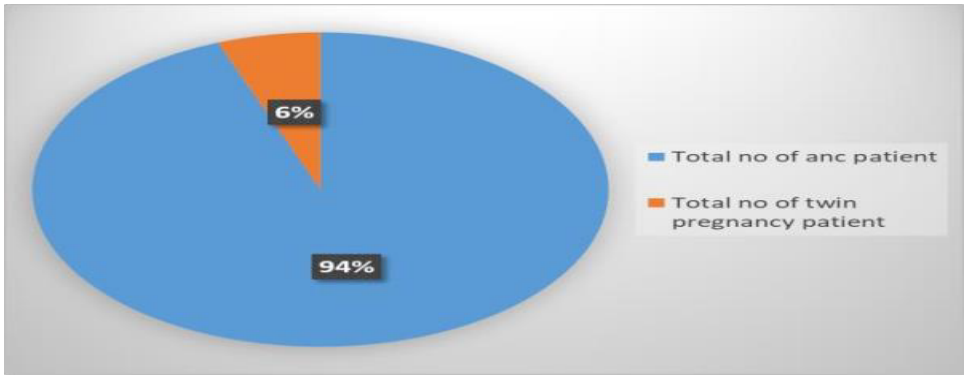
**Exclusion Criteria:**

Patients having complicated medical diseases before pregnancy like chronic hypertension, pre-existing diabetes mellitus.

**Results**

**Table 1: Total no of twin pregnancy patients out of all antenatal patients**

| Total no of antenatal patients | Total no patients having twin pregnancy |
|---|---|
| 2477 | 152 |



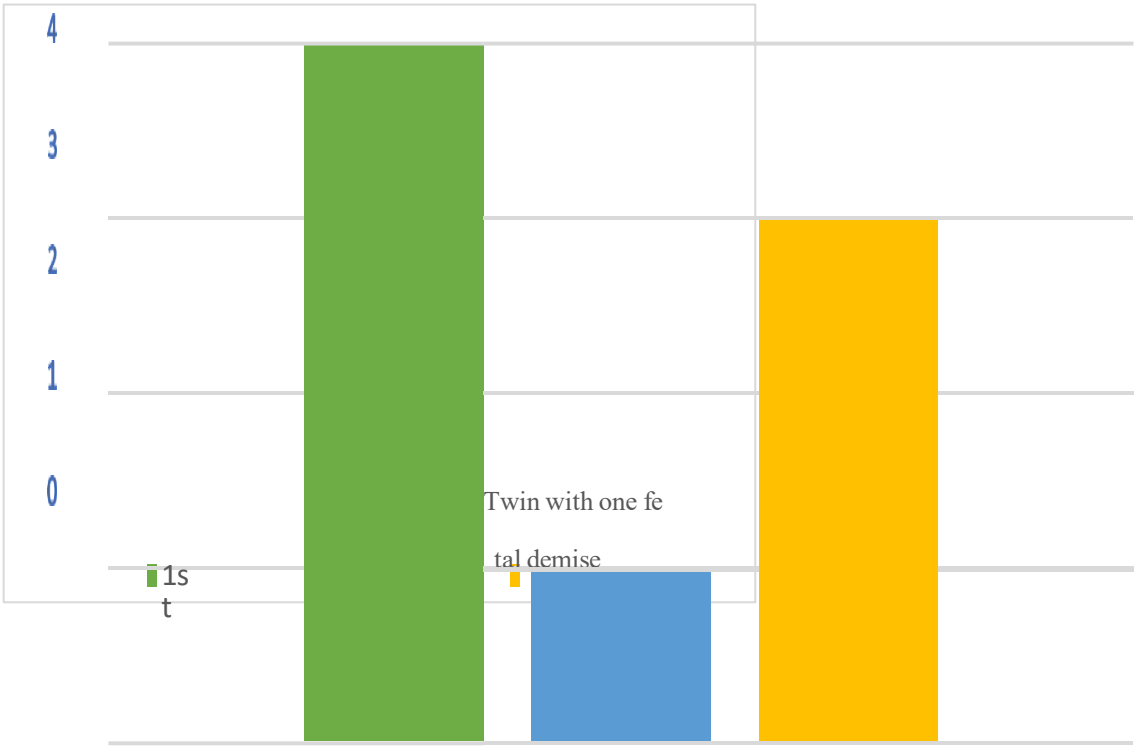




**Figure 1: Chart showing patient who presents at different trimester (twin pregnancy with one fetal demise)**

**Antepartum and intrapartum outcomes of study group:**

**Table 1: Antepartum and Intrapartum Outcomes**

| S.No | Time Of Diagnosis | Antepartum Complication | Placenta | Time Of Delivery | Mode Of Delivery |
|---|---|---|---|---|---|
| 1 | First Trimester (10 Weeks) | No | Dichorionic | At Term (37wks) | Lscs |
| 2 | First Trimester (8 Weeks) | No | Monochorionic | At Term | Vaginal |
| 3 | First Trimester (9 Weeks) | No | Dichorionic | At Term | Lscs |
| 4 | First Trimester (10weeks) | No | Monochorionic | At Term | Lscs |
| 5 | Second Trimester (24wks) | Iugr | Monochorionic | At Term | Lscs |
| 6 | Third Trimester (30wks) | Iugr | Monochorionic | At Term | Lscs |
| 7 | Third Trimester (33wks) | Preterm Labor | Monochorionic | 34 Weeks | Vaginal |
| 8 | Third Trimester (36wks) | Pre Eclampsia | Monochorionic | At Term | Lscs |

## Discussion

My study showed that single fetal death in twin pregnancy is not an uncommon event with about 6.6% incidence in my study. In a study by ENBOM, has reported the incidence of twin pregnancy with single fetal death ranges from 3.5-7.1%. So, it is comparable to my study. The cause of morbidity is most commonly due to vascular anastomosis.

Vascular anastomosis is more common in monochorionic placenta and can lead to TTS, affecting the other twin in single fetal death adversely, but this complication is rare in dichorionic placenta. In my study, 6 patients had monochorionic placenta and 2 had dichorionic placenta and all patients who reported in late 2$^{nd}$ and 3$^{rd}$ trimester had monochorionic placenta, who developed complications like IUGR, pre-eclampsia and preterm labour.

## Conclusion

The sequelae of a single fetal death in a twin pregnancy depend on the gestation and placentation. Death in the late second or third trimester is associated with significant morbidity and mortality in the surviving twin.

Therefore, all twin pregnancies with one dead fetus should be managed in tertiary referral centers with sufficient neonatal support. Early ultrasonography should be advised to see chorionicity. Management plan should be standardized. Intensive fetal surveillance, proper care and management can salvage a good number of babies.

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