



STUDY OF TWIN PREGNANCY WITH ONE FOETAL DEMISE.

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ABSTRACT**Aim:** To study the incidence and feto-maternal outcome in twin pregnancy with one IUD fetus.**Material & Methods:** Over a study period of three years 52,450 deliveries were conducted. Out of these there were 858 twin deliveries and out of these 50 cases with one foetal demise we're diagnosed and managed with intensive foetal maternal monitoring. All patient were followed until onset of labour, mode of delivery decided and neonatal outcome was studied.**Results:** Out of 52,450 deliveries, 858 (1.8%) twins delivered. Out of them 50 (5%) twins diagnosed with one IUD. In second and third trimester, they were managed with regular coagulation profile along with fetal monitoring. Out of them 20 (40%) diagnosed with Anaemia, 14 (20%) with preeclampsia, 5 (8%) with antepartum haemorrhage, 3 (6%) with altered DIC profile, 1 (2%) with PPH. Out of 11 neonatal death, 7 were having low birth weight (<1.5kg), One baby had meningocele and one expired due to neonatal sepsis. No perinatal mortality was there when birth weight was more than 2.5kg.**Conclusion:** Demise of one twin does not have much effect on the surviving twin and the maternal coagulation profile and foetal salvage possible with intensive monitoring.**KEYWORDS :** Twin pregnancy, One foetal demise.**INTRODUCTION**

Twin pregnancies with one foetal demise comprise 3-4% of all twin pregnancies. Foetal loss of a twin during first trimester is not an uncommon event. Loss of one twin in the first trimester does not appear causing any harm in surviving twin, however foetal death occurring after 20 weeks of gestation may increase risk of IUGR, preterm labour, preeclampsia and perinatal mortality (1,2,3). The causes of foetal death include twin-twin transfusion syndrome, placental insufficiency, preeclampsia, cord around neck, congenital anomalies (4).

Maternal coagulopathy is considered the most important complication following foetal death but is not very common (5). Chorionicity rather than zygosity determines the risk of mortality and morbidity. Hence, determining the type of placentation by ultrasonography can help in predicting the outcome. The perinatal mortality of monochorionic twin pregnancies is more than dichorionic ones (6). Major morbidity is unlikely to occur in surviving twin of a dichorionic gestation.

We have studied 50 cases of twin pregnancies with one foetal demise. In this study we have found that demise of one twin has not much effect on pregnancy outcome.

AIMS AND OBJECTIVES

1. To identify the incidence of twin with one IUD
2. To determine the time of induction of labour in case of complications.
3. To study the effect of IUD fetus on live fetus and mother.

MATERIAL AND METHODS

Over a period of three years (June 2015-May 2018) 52,450 deliveries were conducted, out of them 852 were twin pregnancies, out of which 50 cases of twin pregnancy with one foetal demise we're diagnosed in our institute. These cases were followed till delivery with maternal investigations and extensive foetal monitoring. The twins which diagnosed in first trimester and vanished by second trimester are not included in our study.

Maternal Monitoring:-

- All routine antenatal investigations (Hb, ABO_RH, HIV, HBsAg, RBS, Urine albumin, Urine Sugar)
- Special investigations including coagulation profile (CBC with Platelet count, BT, CT, PT with INR, aPTT, FDP) Renal Liver function test every four weeks and whenever required.
- Ultrasonographic diagnosis for no. of fetus, one IUD, Liquor, Doppler of MCA, GCA baby and gestational age at which demise occurred.
- During active first stage of labour, intensive foetal and maternal monitoring done in form of FHS every half hourly, maternal vitals every two hourly and progress of labour noted.

Foetal Monitoring:-

- Routine antenatal check up (FH, AG, Weight of patient)
- Daily foetal movement count.
- Ultrasound with Doppler every two weeks.
- NST in specific cases of obstetric factors and altered sonographic findings.

All women with gestational age less than thirty-four weeks having preterm or threatened preterm labour were given steroids for lung maturity of the fetus. All cases were followed until spontaneous onset of labour, the mode of delivery was decided according to obstetrical indications and foetal conditions.

OBSERVATION AND DISCUSSION**TABLE 1: Mean Maternal Age And Gravida**

Gestational Age of diagnosis of demise in Weeks	Number of Booked Cases n=32 (%)
25-28	7(21%)
29-32	18(56%)
33-36	7(21%)

Mean duration between diagnosis of twin with one demise and delivery in booked cases was 9.42 weeks.

TABLE 2: Age And Incidence Of Twin With One Foetal Demise

Age	Total cases n=50(%)
15-19	6(12%)
20-25	7(14%)
26-30	25(50%)
>30	12(24%)

As in twin pregnancies, incidence of twin pregnancies with one foetal demise increases as maternal age advances. Incidence is 50% between 26-30 age in years.

TABLE 3: Incidence And Parity

Parity	Total cases n=50(%)
Primi	20(40%)
Multi	30(60%)

Table shows incidence of twin with one IUD is slightly more in multiparous woman. There is not much significant difference in parity in etiology of twins with one IUD.

TABLE 4: Time Of Diagnosis Of One Foetal Demise

Gestational Age of diagnosis of demise in Weeks	Number of cases n=50 (%)
13-20	6(12%)
21-24	7(14%)
25-28	12(24%)
29-32	14(28%)
32-36	7(14%)
>36	4(8%)

Majority of cases 28% were diagnosed during gestational age between 25-32 weeks. 8% cases were diagnosed after 36 weeks of gestational age. The twins which diagnosed in first trimester and vanished by second trimester are not included in study.

TABLE 5: Time Of Delivery

Gestational age of delivery in weeks	Number of cases n=50(%)
21-24	1(2%)
25-28	8(12%)
29-32	18(24%)
33-36	20(36%)
>37	3(6%)

36% of cases delivered during gestational age of 33 to 36 weeks. Only 6% cases delivered beyond 36 week of gestation. So 60% cases delivered between 29 to 36 weeks of gestation. Injection steroids (betamethasone or dexamethasone) were given to mother for foetal lung maturity.

TABLE 6: Twin Pregnancies With One Demise With Obstetric Complications

COMPLICATION	NUMBER OF CASES N=50(%)
ANAEMIA	20(40%)
PREECLAMPSIA/ECLAMPSIA	14(28%)
APH	5(10%)
ALT DIC PROFILE	3(6%)
PPH	1(2%)

Out of the all 50 cases, 40% cases were complicated by anaemia, preeclampsia/eclampsia in 28 %, APH in 10 % cases. 1 case had atonic PPH which was managed with oxytocic drugs. Rates of preeclampsia and eclampsia and APH are higher compared to singleton pregnancies. There was altered DIC profile in 3 patients.

As prevalence of anaemia is more in India, anaemia found to be major high risk factor in present study. And hypertensive disorders are higher in our study.

TABLE 7: Birth Weight And Perinatal Mortality

Birth weight	Total cases (n=50)	PNM (n=11) (%)
<1500 gm	18(36%)	7(38.8%)
1501-2500 gm	30(60%)	4(13.3%)
>2500gm	2(4%)	0(0%)
Total	50	11(22%)

In our study, 60% of live babies had birth weight between 1500-2500gm indicating preterm low birth weight babies. While 36% babies had birth weight <1500gm indicating very low birth weight. Only 2 out of 50 had birth weight >2500gm. So, 96% of majority babies had low birth weight. Out of total 50 cases there were total 11 perinatal mortality. Most common cause seems to be extreme low birth weight. There were 5 babies born below weight 1 kg and out of five none survived. 1 baby died due to GCA (meningocele), one baby expired due to neonatal sepsis.

As birth weight increases, perinatal mortality decrease indicating low birth weight most common cause for perinatal mortality in our study. No perinatal mortality noted when birth weight exceeds 2.5 kg.

TABLE 8: Apgar Score And Foetal Death

Score at 5 minutes	Total cases (n=50)	Foetal death(%)
0-3(poor)	4	4(100%)
4-6(fair)	10	3(77%)
7-10(good)	36	3(8.3%)

Above table shows relationship between APGAR score and foetal death. In 3 cases (77%) foetal death were found when APGAR score was between 4-6. And there were 3 foetal deaths (8.3%) when APGAR score was between 7-10.

This indicates perinatal mortality increases with low APGAR SCORE. All patients had uneventful postpartum period and maternal mortality was obscured.

TABLE 9: No Of Nicu Admissions

TOTAL	NICU
50	28(56%)

Out of 50 cases 28(56%) new born were admitted in NICU. Chief cause of admission was low birth weight. 21 cases were of preterm and 7 were of IUGR.

TABLE 10: Perinatal Mortality

TOTAL	STILL BIRTH	NEONATAL DEATH
50	3(6%)	11(22%)

Out of 50 cases 3(6%) were still born. While in 11(22%) cases there were neonatal deaths. Out of 11, 7 were extremely LBW (<1000gm). 2 babies were expired due to neonatal sepsis. One was GCA baby. In still born 2 were during LSCS for abruption and 3rd was during vaginal delivery for extreme preterm.

DISCUSSION

In our study the incidence of single foetal death in twin pregnancy is about 5% of twin pregnancy. In Peterson Nylon study, the incidence of twin with one foetal demise was 7.8% of twins (7).

Antenatal ultrasonography for chorionicity is important in assessing potential risk. In dichorionic twins the prognosis of surviving twin is relatively good and immaturity is main risk factor (8). In case of monochorionic twins, the prognosis is poor and associated with neurological damage in survivor (9). The frequency of vascular connection in monochorionic placenta range from 85-98% while in dichorionic placenta vascular connections are rarely seen (10). The presence of vascular anastomosis lead to injury by two mechanisms in monochorionic placenta one is hemodynamic fluctuation and other transchorionic embolism and coagulopathy (11). Abrupt and severe hemodynamic changes at the time of one intrauterine death may result in ischemic damage to brain and leads to cyst formation

in surviving twin .Additional abrupt hypotension would lead to further hypoxic damage to the surviving fetus(12) Fusi and Gordon have suggested that circulatory disturbances and sudden drop in blood pressure are as important as maternal DIC in resulting morbidity.

We did not encounter any case of symptomatic DIC in our study. Time interval between single fetal death and delivery in our study was upto 9.4weeks.

The postpartum period was uneventful in all our cases. All babies were normal and did not have any deformity.

CONCLUSION

Foetal death in twin pregnancies should be considered a high risk pregnancy and should be managed in a tertiary referral center, where intensive foetal surveillance and adequate neonatal support are available. Among all twin cases as such incidence of twins with one IUD is very low but a multidisciplinary (neonatologist, obstetrician and anesthesiologist) approach should be adopted. With advanced age incidence of twin pregnancies increases. So incidence of twin with one IUD also increases. Demise of one twin has no significant impact on maternal mortality. There is increased incidence of pre eclmpsia, eclampsia, preterm delivery. Perinatal mortality is more in twin with one IUD compare to twins. Monochorionic pregnancies has worse outcome compared to dichorionic one. So, antenatal evaluation of chorionicity by ultrasonography is important. Twins with one IUD can be managed without complication. Most common cause of perinatal morbidity and mortality is low birth weight due to preterm delivery. Ultrasonography has important role in early detection and plan of management. The main problem for the surviving twin is prematurity- not the sibling's death. Demise of one twin has not much effect on maternal coagulation profile.

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