Volume 20 Issue 63
Originally issued as E7



Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 20 Issue 7 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

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GJMR-E Classification: NLMC Code: WQ 225



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Living with the Dead

Single Intrauterine Fetal Demise in Twin Pregnancy, Outcome of the Surviving Co Twin and Maternal Perinatal Care: A Report of Five Cases

Dr. Ashok Anand [α], Dr. Binita Shah [σ] & Dr. Saman Syed [ρ]

Abstract- **Intrauterine twin gestation with death of one foetusleads to anxiety in the mind of patient, relatives and even obstetrician.Fetal demise of a twin in the first trimester (vanishing twin) is not very rare and does not impair the development of the surviving twin. However Fetal death in late second and third trimester increase the risk of complications for the surviving co twin such as IUGR, preterm labor, neurodevelopmental impairment and maternal complications such as maternal coagulopathy, preeclampsia, sepsis and perinatal mortality. The causes of fetal death vary and include twin to twin transfusion, placental insufficiency, IUGR, preeclampsia, velamentous insertion of cord, cord around neck, congenital anomaly, etc. The objective of this study is to ascertain the prognosis of the surviving co twin to aid counseling of patients and foreground future research.**

I. Material and Methods

Five cases were studied in a period of 1 year at a tertiary care centre. The cases were managed conservatively with regular monitoring of maternal coagulation profile along with meticulous fetal surveillance for the surviving twin. The antenatal complications and the fetomaternal outcome in early postpartum period was also studied.

Cases

Case 1: Primigravida with DCDA twins with IVF conception with Rh negative status with hypothyroidism. Pt had triplet conception after IVF with amnioreduction of one triplet done at 10 weeks of gestation. This was followed by IUFD of 2nd twin in late 2nd trimester. Ultrasonography was suggestive of one live twin of 24.1 weeks gestation with 2nd twin IUFD of 18.1 weeks mean gestational age with normal doppler study of surviving co twin. All laboratory investigations were within normal range. Pts blood group was B negative and husbands blood group was B positive. Anti D injection was given after doing indirect coombs test which was negative. Weekly coagulation profile was monitored. Weekly obstetrical ultrasound with doppler studies were done to see fetal growth and biweekly NST was done for fetal surveillance. Emergency LSCS was done at 37 weeks in view of premature rupture of membranes and a healthy female baby of 2.1kg and macerated baby of 150 gm delivered.

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Case 2: G2P1L1 with DCDA twins with 2nd twin IUFD of 25 weeks of gestation. Pt had history of previous normal fullterm vaginal delivery and spontaneous conception in present pregnancy. Pt went in preterm labour at 30 wks and delivered a healthy female baby of 1.45 kg and a macerated female baby of 450 gms both vaginally. Healthy baby was admitted under NICU ivo low birth weight and preterm delivery.

Case 3: G2P1L1 with DCDA twins with IUGR with previoushistory of caesarian section with 2nd twin IUFD of 25.4 wks. Previous caeserian section was done in view of breech presentation 5 year back. Pt was started on IUGR regimen and strict daily fetal kick count charting was done. Daily Scar site tenderness was checked. Pt went in pretermlabour at 34 weeks of gestation and delivered a healthy female baby of 2.1kg and a macerated male baby of 450 gms vaginally (VBAC). Healthy baby admitted in NICU ivo respiratory distress for observation and was shifted to normal ward on day 2 after symptoms relieved.

Case 4: G2P1L1 DCDA twins with one twin IUFD of 21 weeks. Elective lower segment cesarean section was done at 37 completed weeks of gestation, a healthy male baby of 2.3 kg and a male macerated still birth of 300 gms was delivered.

Case 5: Primigravida with MCDA twins with one twin IUFD at 30 weeks gestation with pregnancy induced hypertension. Bp charting and toxemia charting was done and patient was watched for any pre monitoring signs and symptoms. Patient started complaining of decreased fetal movements at 36.4 weeks. Urgent ultrasound done was suggestive of uteroplacental with fetoplacental insufficiency in the surviving twin and hence an emergency cesarian section was done. Pt delivered a healthy male baby of 1.9kg and a macerated male still birth of 1.4 kg. Post delivery the Blood pressure normalized and antihypertensives were tapered and then stopped.

All patients were admitted in our hospital in view of high-risk cases for close observation and prevention of complications. The patients and relatives were worried about the possibility of adverse outcome with respect to danger to mother as well as surviving co twin. Initial assessment and evaluation of all the cases were done. The patients and relatives were then counselled about the possible adverse effects of foetal prematurity,

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in case the pregnancy requires early termination. They were explained in detail about the further plan of management and the advantages as well as the risk of continuation of pregnancy till foetal maturity is reached. Laboratory investigations were sent for all patients – Complete blood count for hemoglobin and total leukocyte counts, Liver function test, Renal Function Test, Thyroid profile, Fasting and post prandial sugars, serological investigations like HIV, HBsAG, HCV, VDRL, Urine routine microscopy and culture sensitivity, high vaginal swab culture sensitivity, coagulation profile like PT INR, APTT, D dimer, Fibrinogen. All investigations were within normal range for all patients. DIC profile was repeated weekly and cultures were repeated fortnightly. All patients were given prophylactic broad spectrum antibiotics for one week. Injection Proluton 250mg was given intramuscularly weekly till 32 weeks gestation. Pts were also started on tablet Ecospirin 75 mg once daily or Injection Enoxaparin 0.4mg subcutaneously once daily till 34 weeks. Injection betamethasone 12 mg f/b 12 mg after 24 hours was given for lung maturity of surviving co twin and prevent infant respiratory distress syndrome, might premature delivery occur. Weekly ultrasonography with doppler studies were done for fetal growth and monitoring. Biweekly NST (non stress test) was done. Daily fetal kick count charting was done. Those with IUGR in surviving twin were started on IUGR regimen including arginine granules and protein powder. 2 patients went in spontaneous preterm labour, Emergency lscs was taken for 2 patients and one patient was taken for elective LSCS at 37 weeks. Post delivery patients were given injectable broad spectrum antibiotics for 1 week, neonatologists were consulted for neurological development of the baby. Healthy mother and baby were discharged from the hospital.

II. Discussion

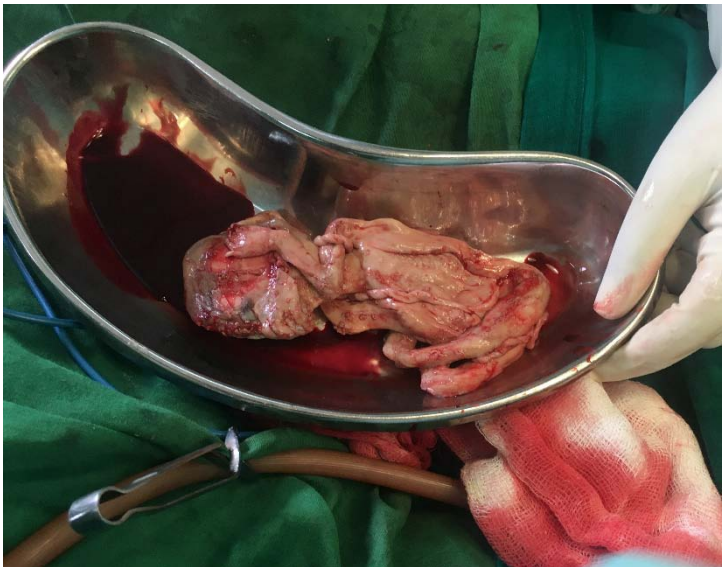
Pregnancies with multifetal gestation are associated with a greater risk of perinatal morbidity and mortality as compared to pregnancies with single gestation. Single fetal death in early pregnancy, also known as vanishing twin occurrs in about 21% of early twin pregnancies. The rate of single intrauterine fetal demise in twin pregnancies is about 2.5% to 5.0 %, thus leading to major complications for the surviving co-twin including a greater risk of preterm birth, neurologic morbidity, and an increased risk of perinatal mortality

Causes of intra-uterine foetal demise in twin pregnancies

1. Placental	-Twin to twin transfusion syndrome
	- placental infarcts
	- placental insufficiency
	- abruptio placenta
2. Umbilical cord complications	- true knot
	-Velamentous insertion of cord
	-Cord entanglement around neck of foetus
3. Foetal congenital anomaly	
4. Anomalies of uterus	
5. Iatrogenic (indicated)	Selective foeticide

Congenital anomalies in the dead foetus are very difficult to diagnose because of foetus papyraceus (severe maceration) formation at the time of birth. Selective feticide is done especially in cases of foetus with Down syndrome in multiple gestation.

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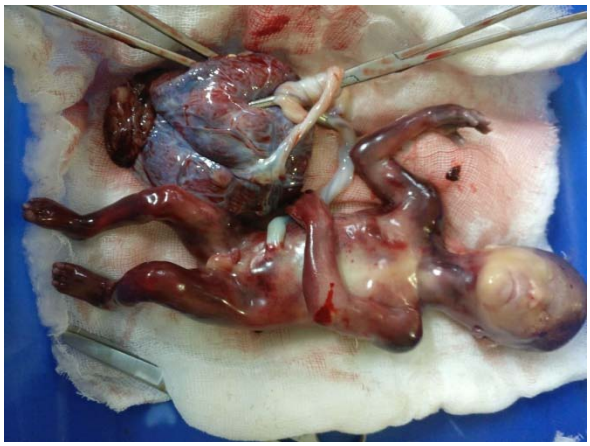
A-Foetus Papyraceus of ApproximatelY 150 GMS



B- Healthy Cord of Normal Twin and Dark Coloured Cord of Iufd



1

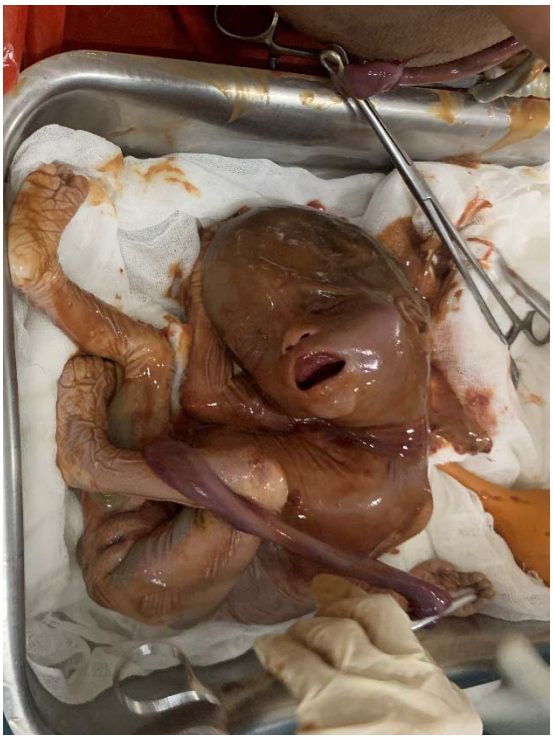


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3



4

Congenital Anomaly Difficult to Diagnose Due to Maceration in All Iufds (1,2,3,4)

a) Complications

The most dangerous complication in continuation of pregnancy more than6 weeks after single foetal demise is the risk of Diffuse Intravascular coagulation in the mother. This is due to fibrin and thromboplastin that are released from dead foetus in the maternal circulation, also known as "foetal death syndrome". Complications in the surviving twin include increase risk of intra-uterine growth retardation and death due to infection and sepsis.

b) Management

The most important prognostic factor for the surviving co-twin is very severe prematurity, therefore a management plan should be based on preventing prematurity keeping in mind the fact that the intrauterine environment is potentially dangerous for the surviving twin. Before 34 weeks of gestation, pts should be admitted as high risk obstetrics case, complete bed rest should be given and close observation and monitoring of patient and surviving foetus should be done. Pts to be watched for complications such as pregnancy-induced hypertension, intrauterine growth restriction, and preventing preterm delivery. Maternal coagulation profile including fibrinogen and fibrin degradation products should be checked once weekly. Daily monitoring of fetal movements and fetal heart rate should be done. An ultrasonography with doppler studies should be done weekly with special attention on fetal growth, the amniotic fluid index and the placenta. Many patients unfortunately go in spontaneous preterm labour. Corticosteroids should be given to promote lung maturity and prevent respiratory distress syndrome in infants in case premature delivery occurs. Good emotional support is given to mother and relatives. Between 34 and 37 weeks of gestation, corticosteroids are not necessary, the risk of prematurity has to be weighed against risk of complications to mother and surviving foetus to continue pregnancy and delivery to be planned. After reaching 37weeks, the patient should be planned for delivery as the risk of placental insufficiency increases and the psychologic stress for the parents also becomes very severe. High risk of haemorrhage at the time of caesarean section should be explained and all arrangements to be made regarding availability of blood and blood components. After delivery the newborn should be examined thoroughly and observed for neurological development. Regular check up of newborn should be done including ultrasound for any anomaly and CT scan of head for neurological mal development should be done.

III. Conclusion

The outcome of a single fetal death in a twin pregnancy depends largely on gestation. Preterm birth was the commonest adverse outcome. All such pregnancies should be managed in tertiary care centre with sufficient neonatal support. A management plan should be individualized.Intensive foetal and maternal surveillance should be done. Although our study was small, it indicates that in case of twin pregnancy with

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single fetal death with good surveillance, the living co twin can be salvaged. Conservative management should be preferred, however the risk of keeping the surviving co-twin in the hostile intrauterine environment must be weighed against the risk of preterm delivery. Proper counselling, psychological support, and long-term follow-up are mandatory in these cases

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