

ORIGINAL ARTICLE

Intrauterine Single Fetal Demise In Twin Pregnancy: A Crucial Obstetric Problem

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Introduction

The death of one twin occurs in approximately 3% to 4% of all twin pregnancies & generates difficult problems for the obstetricians¹. Most of the single fetal demise occur in monochorionic twin pregnancies². Intra – uterine fetal demise of 1 twin in a multiple gestation is a complex clinical situation. Chorionicity, gestational age at diagnosis, problems specific to the pregnancy & the emotional needs of the patient can impact management³.

Four cases of twin pregnancies with intra - uterine single fetal demise are reported.

Case - I

Mrs. Shilpi, a 28 years old 3rd gravida, para – 1 N/VID, 1 MR , was admitted on 27th September, 2004 in this Hospital with the C/O amenorrhoea for 30 weeks & no fetal Movement for 2 days. She had also H/O Jaundice for 3 days. She delivered her previous child normally 4 years back.

On Examination she had Jaundice, she was normotensive, her per – abdominal examination revealed height of the uterus 34 weeks, presentation breech, fetal heart sound

positive. All the relevant investigations were done. Her blood group was B + Ve , serum bilirubin was 9.82mg / dl, prothrombin time was 14 second. USG revealed twin pregnancy of 30 weeks with 1st one alive of about 31 weeks 4 days and second one with intrauterine death, with breech presentation of both. She was kept under observation and then she went into spontaneous labour on 29th September 2004 at 12.45 A.M. and delivered a living female child spontaneously vaginally by breech presentation. The baby cried just after birth. The second baby was delivered by breech extraction which was stillborn. The placenta were separate.

Case - II

Mrs. Lutfun Nahar, A 22 years primi-gravida presented on 16th July 2003, with amenorrhoea for 34 weeks and no fetal moment for 2 days . She was married for 7 years. She was treated for infertility with tablet chlomiphene & Injection HCG for the last 4 cycles.

According to her LMP, her E.D.D was on 10th June 2003.

On examination, she was mildly anaemic, normotensive.

The symphysio-fundal height was 36cm, foetal heart sound was heard very faintly. Immediate USG revealed one viable fetus about 34 week size with IUD of the second fetus. All the relevant investigation were done,

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Hb%, random blood sugar, blood urea, serum creatinine, coagulation profile, liver function test all were - within normal limit. Emergency caesarean section was done. The first baby was male, viable, 1.8kg wt. The second twin was dead. There was single placenta, with cord & membranes. The post operative period was uneventful & she was discharged on the 10th post operative day.

Case - III

Mrs. Shebani, a 26 years, old primi gravida, was admitted on 22nd October 2004 in Holy Family Hospital with the C/O Amenorrhoea for 33 weeks and pain in abdomen for a few days.

Her L.M.P. was on 7th March 2004. Accordingly her E.D.D. was on 14th December 2004. She was a diagnosed case of twin pregnancy .

On Examination, she was normotensive, mildly anaemic. Perabdominal examination revealed the S.F.H to be 32cm, fetal movement and FHS positive. USG was done on 23rd October 2004 which showed 30 weeks of twin viable pregnancy with 1st baby presenting by vertex. Per vaginal examination revealed that the patient was not in labour.

Treatment started with I/V fluid Inj. Oradexon and antibiotics. But suddenly patient developed hypertension. On 23rd October 2004 at evening, B.P. was 160/100mm of Hg, urine for albumin was (++) . On 24th October 2004 at 2.20 p.m. B.P was 160/120 mm of Hg. Intracervical prostaglandin was given for induction of labour. But there was no progress. At 10 p.m. emergency caesarean section was done.

1st baby was alive, female child, birth wt - 1.5kg, Apgar score - 6-7.

2nd baby was dead, male child. There were 2 placentae.

There was true knot in 2nd baby's cord. Patient's recovery was good post operatively. The baby was kept in incubator & was well. Pt. was discharged on 7th POD.

Case - IV

Mrs. Roksana, a 30 years old primigravida, was admitted on 17th November 2004 with the h/o Amenorrhoea for 34 weeks and watery discharge P/V for 1 day. Her E.D.D. was on 30th December 2004. She was a diagnosed case of twin pg. at 13 weeks of her pregnancy.

On Examination she was mildly anaemic and normotensive P/A Examination revealed the height of uterus to be 35 cm, Fetal movement and fetal heart sound positive . The presentation of the 1st baby was cephalic. Pervaginal examination revealed that she was not in labour but membranes were ruptured.

Treatment was started with I/V fluid, Injectable antibiotics, Inj. steroid.

USG on 18th November 2004 showed 33 weeks of twin pregnancy , with one alive & 1 dead . Considering the risk for the surviving fetus, decision was taken for immediate termination of pregnancy & emergency C/S was done on the same day. 1st baby was alive, and cried immediately after birth, its weight was 1.8kg, apgar score 8-9. 2nd baby was dead. There was single placenta.

Post-operative period was uneventful. Patient along with the baby was discharged on 6th POD.

Discussion

The death of one twin occurs in 3-4% of all twin pregnancies. Most of the single fetal demise occur in monochorionic twin pregnancy. Mortality and morbidity of the surviving twin is 46.2% and 20% of them may have neurological damage¹.

The effect of death of one twin on the survivor varies depending on the gestational age at the time of death. Fetal demise after 14 weeks places increased risk on the survivor. There is risk of neurological damage of the survivor. This probably results from transfer of thromboplastin from the dead twin, producing thrombotic arterial occlusion. These occlusion affect mainly the anterior & middle cerebral arteries, causing multicystic encephalomalacia⁴.

The potential morbid effect of death of one twin on the mother is Disseminated intra vascular coagulation (DIC). This complication usually occurs 3 or more weeks after the fetal demise. Periodic monitoring of the haemostatic system is necessary in those patients who continue with the pregnancy⁵. In the present series the demise was detected between 30 to 35 weeks. As the complication was identified very late, & delivery occurred immediately, there was no scope to do periodic monitoring of haemostatic system.

Regarding management, traditional approach is to deliver the survivor to avoid embolization. After 30 weeks the complication of preterm delivery on the survivor are probably less serious than those that may happen if intra uterine life continues.

The problem is the inability to predict embolization. If it happens shortly after or simultaneously with fetal demise, then

delivery of the survivor will not modify the neurologic outcome. In most cases it is impossible to know how many days have passed since the fetal demise, & it is possible that brain damage due to embolisation has already occurred.

It is preferable to deliver the survivor immediately only if it is known that the demise occurred 24-48 hours before it was discovered & the pregnancy is more than 28 weeks. It is also adequate to deliver the survivor when the pregnancy is 34 weeks or more, even if the interval between death & diagnosis is not known.

In the present series, in Case - I membranes were ruptured & the patient went into spontaneous labour at 30 weeks gestation. The labour lasted for 8 hours. The 1st baby was a female child & delivered spontaneously per vaginally by breech extraction, at 12.45 A.M. on 29th September 2004. Baby cried just after birth. The second dead male child was also delivered by breech extraction at 1.00 A.M. There was 2 placentae. Placenta cord and membranes delivered by controlled cord traction.

In case - II, the patient presented at 34 weeks & as the fetal demise was diagnosed, it was decided to do caesarean section. During management of such cases, strategies to optimize outcomes may include a multidisciplinary team approach & fetal surveillance³.

Twin to twin transfusion syndrome (TTS) is a serious complication in monochorionic twin pregnancies. The most common problem of TTS are fetal complication such as single or double intra uterine demise, spontaneous abortion, premature rupture of membranes & ultimately neurological impairment⁶.

Triplet to triplet transfusion is a rare clinical complication of monochorionic pregnancies. A case is reported where in a monochorionic triamniotic triplet gestation, after a single fetal demise, an ongoing twin to twin transfer continued in the surviving triplets. The donor triplet had ultrasound evidence of secondary structural brain damage. The pregnancy was successfully managed by bipolar umbilical cord coagulation of the donor triplet & spontaneous vaginal delivery of recipient triplet⁷.

Perinatal characteristics & outcome of pregnancies complicated by twin to twin transfusion syndrome has been extensively studied in a center over a 10 years period. Perinatal outcome was directly related to stage at diagnosis and gestation at delivery. The overall perinatal survival was 64.5%. The median gestation at delivery was 29.4 weeks. The perinatal survival for those born at more than 28 weeks gestation was 27% to 84.4% for those born at more than 28 weeks gestation. The incidence of neonatal complication reflected the high preterm birth rate⁸. Amnion reduction was the principle in intervention employed in this series, but in 24.6% of cases, no therapy was used because of the requirement for immediate delivery or fetal demise⁸.

In the present series, in case I, as the delivery occurred at 30 weeks gestation, the fetus was 1.2 kg wt. at birth, it survived for 10 days but died thereafter due to prematurity. In case - II, C/S was done at 34 weeks & baby was well. In case - III, baby was 1.5 kg at birth. Baby was kept in incubator for better management. In case -IV, the alive baby was 1.8 kg and cried just after birth. Apgar score was 8-9. The mother along with the baby was well and discharged on 6th POD.

In case of single fetal demise, the surviving twin should be evaluated with ultrasound & magnetic resonance imaging (MRI) in order to detect the 20% probability of neurological damage⁹. If no lesions are observed, the parents may be reassured.

As a method of prevention of single fetal demise, fetoscopic laser treatment was done for severe, second trimester twin-to-twin transfusion syndrome in Netherland. 49 patients with severe second trimester twin-to-twin transfusion syndrome were treated by selective fetoscopic laser coagulation of anastomosis along the vasculature on the placental surface. Follow up was complete until six weeks after delivery. Median gestational age was 20 weeks at fetoscopy & 34 weeks at birth. Perinatal survival rate was 65%. The treatment resulted in at least one surviving child in 80% of pregnancies¹⁰.

Conclusion

After death of one of the pair of a twin, morbidity may affect as many as 46% of the survivors. Hence vigilant monitoring during pregnancy, timely delivery and proper neonatal management are the cornerstones for the success of treatment of single fetal demise.

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