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Case Report

Conservative management of single fetal death in a twin pregnancy

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ABSTRACT

Intrauterine death of a single fetus in a twin pregnancy during the second or third trimester is an uncommon complication and poses management challenge to the obstetrician. It also causes psychological stress and concern for the patient and her partner. We report a case of single fetal demise in a twin pregnancy, managed conservatively with a favourable outcome. A 31 years old lady, Para 1+1, referred from a cottage hospital, at a gestational age of 27 weeks, on account of demise of the leading twin, made on ultrasonography, following complaint of reduction in fetal movement of one-week duration. The patient was counselled and admitted to hospital for close monitoring. However, at 33 weeks gestation, six weeks following admission, she went into spontaneous labour and was subsequently delivered vaginally of a dead female leading twin (papyraceus) and a live female second twin. They weighed 300g and 2100g respectively, with a diamniotic-dichorionic placentation. Mother and baby were discharged home in stable state. The primary concern for single fetal demise in a twin pregnancy is its effect on the surviving fetus and mother. Regular antenatal care and routine ultrasonography in pregnancy are needed to make a diagnosis. Close monitoring of the wellbeing of the surviving twin and coagulation profile of the mother are crucial to manage possible complications.

Keywords: Twin pregnancy, Intrauterine death, Conservative management, Fetal papyraceus

INTRODUCTION

The incidence of multiple pregnancy has increased in recent times due to widespread use of ovulation induction drugs and assisted reproduction.¹ Multiple pregnancy is one of the high-risk conditions faced by Obstetricians. Twins represent approximately 3% of all live births and triplets and higher order births now occur with a frequency approaching 1 in every 500 deliveries.^{2,3} Multiple pregnancy accounts for 17% of all preterm births and 26% of all very low birth-weight (<1500g) babies.³

Intrauterine death of a single fetus in a twin pregnancy during the second or third trimester is an uncommon complication and poses management challenge to the obstetrician. It also causes psychological stress and concern for the patient and her husband. Reported

incidence of single fetal death in twin pregnancy range between 0.5%-6.8%.⁴ Most of these are monochorionic twins and can occur at any gestational age. The death of one twin occurs after 24 weeks of gestation in 1.1% of dichorionic twins compared to 3.6% in monochorionic twins.

The severity of complications following death of a twin is dependent on the chorionicity and the gestational age at which it occurs.^{1,4} Monochorionic twin pregnancies are associated with more severe complications when compared with dichorionic pregnancies.^{5,6} Fetal death of a twin during the first trimester is not uncommon and does not appear to impair the development of the second twin.⁷ However, fetal death during the second or third trimester may increase the risk of preterm labour, IUGR, microcephaly, cerebral encephalomalacia, disseminated intravascular coagulopathy and perinatal death of second twin.^{8,9}

In majority of cases, it is difficult to know the cause of and exact time of fetal death in utero. Causes of death may include placental insufficiency, discordant growth, congenital malformation, twin-twin transfusion syndrome, placental abruption, and blunt abdominal trauma.¹⁰

CASE REPORT

A 31 years old lady, Para 1+1, rhesus negative mother, was referred to the Rivers State University Teaching Hospital from a cottage hospital, at a gestational age of 27 weeks, on account of demise of the leading twin, made on ultrasonography, following complaint of reduction in fetal movement of one-week duration. There was no history of abdominal pain or trauma, fever, vaginal bleeding, or drainage of liquor. She is not a known diabetic or hypertensive.

The pregnancy was desired and spontaneously conceived. She registered for antenatal care in the referring hospital at a gestational age of 12 weeks. Routine investigations were all normal. She had received tetanus prophylaxis and 2 doses of sulphadoxine- pyrimethamine for intermittent preventive therapy for malaria. She was compliant with routine antenatal drugs and regular with her antenatal visits. She had spontaneous vaginal delivery in her only confinement in 2015, with normal labour and puerperium, and received anti-D immunoglobulin within 24 hours of delivery.

Examination at presentation revealed good general condition and normal vital signs, the uterine height was 26 weeks size and a single fetal heart sound was heard using a sonicaid. The demise of the leading twin was confirmed with a repeat ultrasound scan, which also revealed a live second twin at 27 weeks and two placentas with distinct separating membrane. The patient and her husband were counselled about the risk of continuation of the pregnancy on the live twin and mother, and the need for close monitoring, and she was then admitted into the antenatal ward.

Indirect coomb's test at presentation detected no immune antibody. Serial obstetric ultrasound scan was done weekly to monitor fetal well-being of surviving twin, as well as keeping a fetal kick chart. Haematological investigations (Haemoglobin, platelet count, clotting time, prothrombin time) were done two weekly and remained normal. Activated partial thromboplastin time (APTT), FDP and D-dimer could not be done. She also received 2 doses of intramuscular dexamethasone.

However, at 33 weeks gestation, six weeks following admission, she went into spontaneous labour and was subsequently delivered vaginally of a dead female leading twin (papyraceus) and a live female second twin. They weighed 300g and 2100g respectively (Figure 1, 2). The crown rump lengths for both babies were 18 cm and 42 cm respectively, with separate placentas each

weighing 200 g and 400g. The surviving twin had a good apgar score but was admitted to neonatal intensive care unit on account of prematurity and low birth weight, and assessment for any abnormality. The mother was given anti-D immunoglobulin 1500 IU within 24 hours of delivery.



Figure 1: Dead fetus with crown-rump length of 18 cm.



Figure 2: Dead fetus and surviving twin in comparison.

She remained in stable clinical state postpartum and was discharged home subsequently when her baby was released to her.

DISCUSSION

The single dead fetus in this case with a crown rump length of 18 cm probably died in the second trimester few weeks before presentation and became mummified

because it had remained inside more than 10 weeks before delivery.¹¹ In majority of cases, it is difficult to know the cause of and exact time of fetal death in utero. Death of a twin in the second and third trimester is usually associated with several complications including preterm labour, as was seen in this patient. These complications are more severe when it is a monochorionic placenta.^{5,6} This patient had a dichorionic placentation which may explain the absence of more serious complications. Below (Figure 3) shows a photograph of both placentas together, with a more velamentous insertion of the cord of the dead twin, a likely cause of demise.

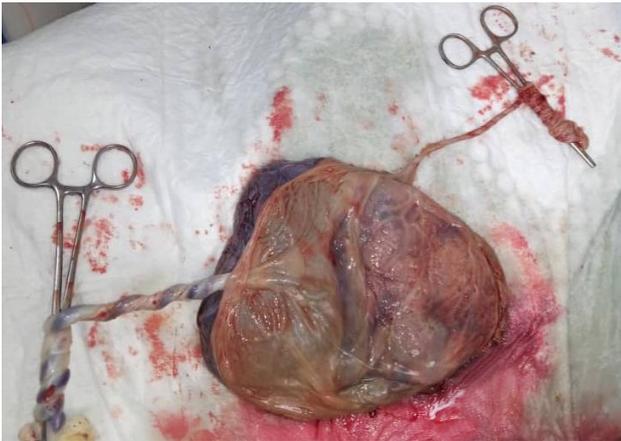


Figure 3: Both placentas together, with a more velamentous insertion of the cord of the dead twin.

When the option of conservative management is embarked upon, close monitoring of both the mother and surviving twin is crucial to a successful outcome. Maternal coagulability has been reported to set in after 3-5 weeks of fetal demise.¹² Therefore, maternal clotting profile needs to be assessed and reassessed every 2 weeks, as was done for our patient. The occurrence of abnormality in the coagulation profile will herald the development of disseminated intravascular coagulopathy (DIC) and the possible occurrence of haemorrhage, a serious complication seen in these cases. The incidence of DIC has been reported as 25% and is thought to result from the release of fibrin and thromboplastin from the dead fetus into the maternal circulation.¹³

Determination of zygosity is important in multifetal gestation, as the risk to the surviving fetus differs with zygosity. The fetal complications are more with monozygotic twins.¹⁴ Close fetal surveillance is mandatory in conservative management of these cases, which often requires hospital admission, as was done in our case. Fetal wellbeing was monitored with weekly ultrasound scan evaluation of the biophysical profile of the surviving twin and maternal fetal kick charting. Fetal kicks reduction to less than 10 usually occurs 24 hours before demise and would have informed immediate delivery. Steroid prophylaxis is advised when the

gestational age is <34 weeks to induce early lung maturation and this was done for our patient.

The risk in the surviving twin of cerebral palsy, aplasia cutis and congenital malformations such as microcephaly or hydrocephalus, absent ear and abnormalities of the heart are high.¹⁴⁻¹⁶ And, as there is the chance of developing neurological damage in the surviving twin, a detailed neonatal evaluation to detect abnormalities in the circulatory, renal, and neurological system of the second twin should be carried out, especially with monochorionic twins. These are unlikely in dichorionic gestation, nevertheless detailed evaluation was carried out in this case.¹

CONCLUSION

The primary concern for single fetal demise in a twin pregnancy is its effect on the surviving fetus and mother. Regular antenatal care and routine ultrasonography in pregnancy are needed to make a diagnosis. Close monitoring of the wellbeing of the surviving twin and coagulation profile of the mother are crucial to manage possible complications. Proper counselling and management will result in a successful outcome.

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