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Successful Delivery of Surviving Twin after the Demise of a Single Twin: Report of 2-Cases.

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ABSTRACT

Background: Twin gestation is high risk pregnancy associated with high maternal and perinatal morbidity and mortality. Researchers have reported the death of one fetus and the successful delivery of the surviving twin at term.
Aim: To present an unusual clinical entity of successful delivery of surviving twin after the demise of a single twin: report of 2-cases.
Case reports: Case 1**-** Mrs T.C 48-year old Para 2+0 (2 alive) with 8-years history of secondary on infertility. Her conception was by IVF-EF. She had demise of first twin at 19 weeks of gestation. Her routine investigations were normal. She was placed on antibiotic cover. Her weekly radiogram and 4-weekly FBC+WBC Differentials, MP, Clothing profile, Urinalysis and m/c/s were normal. She had an elective Caesarean section at term with a good maternal and fetal outcome. She was discharged home on her 5th post-operative day and seen at PNC where she was counseled on family planning.
Case 2**-** Mrs 3-year old Pare 2+1 (2 alive) with twin gestation her conception was spontaneously conceived. She registered for ANC at 16-weeks gestation. Obstetric USS done at booking revealed fetuses had dichorionic placentation. The first twin died at 22-weeks of gestation. Her FBC+WBC Differentials, MP, Clothing profile, Urinalysis and m/c/s were normal. She was placed on antibiotic cover. She had elective caesarean section at term with good maternal and fetal outcome. She was discharged on her fifth post-operative day in good clinical state. She was seen at the post-natal clinic and counseled on family planning.
Conclusion: We presented two unusual clinical scenario of successful management of surviving twin after demise of a single twin. The management was multidisciplinary serial maternal and fetal monitoring.

INTRODUCTION

Twin gestations are estimated to represent 3.2% of all pregnancies (80% of which are diachronic and 20% monochronic).[1] Literature has revealed that twin pregnancies are at higher risk of perinatal morbidity and mortality in comparism with singleton pregnancies.[2]The incidence of a single fetal demise is seen in 6% of cases of twin pregnancies.[2-4]

The challenges of the singleton fetal death in twin pregnancy has various health challenges to both the mother and the surviving baby.[2,5-7] These include coagulopathies. hypertensive disorders of pregnancies and various degrees of structural abnormalities of the surviving fetus examples of which are renal corticle necrosis cerebral alterations, aplasia cutis and gastro-intestinal tract atresia.[4,8-10]

Fetal papyraceous which is a rare event that occurs in 0.018 – 0.020 of multifetal pregnancies as a result of extrinsic compression of the dead fetus by the remaining surviving fetus.[2-4]

The authors are hence reporting 2 cases of successful conservative management of surviving fetus after demise of the first twin.

CASE REPORTS:

Case 1- Mrs T.C 48-year old Para 2+0 (2 alive) with 8-years history of secondary on infertility. Her conception was by IVF-EF. She had demise of first twin at 19 weeks of gestation. Her routine booking investigations were packed cell volume of 33%, Hb genotype AA, blood group B rhesus D positive, retroviral screen was negative for HIV 1 and 2 and VDRL test was non-reactive. Her FBC and platelet count, electrolyte, urea and creatinine, clotting profile, fasting blood glucose and two hours post-prandial including urinalysis were normal. In addition, her malaria parasite test and urine microscopy culture did not show any infection or bacteria growth respectively. She was placed on antibiotic cover. Her weekly radiogram and 4-weekly FBC+WBC Differentials, MP, Clothing profile, Urinalysis and m/c/s were normal. She had an elective Caesarean section at term with a good maternal and fetal outcome. She was discharged home on her 5th post-operative day and seen at PNC where she was counseled on family planning.

Case 2- Mrs 3-year old Pare 2+1 (2 alive) with twin gestation her conception was spontaneously conceived. She registered for ANC at 16-weeks gestation. Her routine booking investigations were packed cell volume of 33%, Hb genotype AA, blood group O rhesus D positive, retroviral screen was negative for HIV 1 and 2 and VDRL test was non-reactive. Her FBC and platelet count, electrolyte, urea and creatinine, clotting profile, fasting blood glucose and two hours post-prandial including urinalysis were normal. In addition, her malaria parasite test and urine microscopy culture did not show any infection or bacteria growth respectively. Obstetric USS done at booking revealed fetuses had dichorionic placentation. The first twin died at 22-weeks of gestation. Her FBC+WBC Differentials, MP, Clothing profile, Urinalysis and m/c/s were normal. She was placed on antibiotic cover. She had elective caesarean section at term with good maternal and fetal outcome. She was discharged on her fifth post-operative day in good clinical state. She was seen at the post-natal clinic and counseled on family planning.

DISCUSSION

The report of reveals the successfully conservative management of 2 cases of twin pregnancy after the demise of a single twin. Similar experience was reported by Maciel RA et al[1] where they successfully aged conservatively managed a twin pregnancy after single fetal death during the second trimester.[1,2]

Research have revealed that the prognosis of favourable outcome of a pregnancy of the surviving twins primarily depends on the gestational age at the time of fetal death of the single time and the chorionicity regardless of the amnionicity.[3-5] In addition, if the loss of one of the fetuses occurs in the first trimester, it is not associated with poor outcome of the other surviving twin especially in diachronic diametric pregnancies.[4,9-10]These patients mainly asymptoms or may have mild abdominal pain and mild bleeding per vaginal.[4] On the contrary if the demise occurs after 14 weeks of gestation and after 20 weeks of gestation, prognosis is poor as these pregnancies are associated with adverse effects of the surviving twin such as prematurity intra uterine growth restriction neurological morbidity for the surviving fetus, pre-eclampsia, and sepsis.[4]

Scholars have shown that prognosis are poorer with monochronic pregnancies.[2-5]This is regardless of the amnionicity due to poorly understood mechanism.[3-6] However, some researchers are of the opinion that due to the presence of related vascular anastomoses that are present allows thrombotic substances to released by the dead fetus to reach the circulation of the live fetus resulting in hypoperfusion, hypotension, hypoxia, acidosis, exanguination, severe anaemia and general ischaemic injuries especially in the central nervous system of the surviving twin.[2,9-10]

For the cases reported: case 1 fetal demise occurred at 19 weeks and placenta was monochoronic and for the second case, death of the first twin occurred at 22 weeks and choronicity was di-choronic. This showed that in both cases they were at risk of prematurity and demise of the surviving twins due to death of the single fetuses at 19 weeks and 22 weeks respectively.

Evidence have shown from researchers that in monochoronic twin prematurity occurs between 28 -33 weeks pregnancy after the death of a single twin, while fetal demise is lower in dichorionic twin after the demise of a single twin.[4-2]The rates of neuropsychomotor disorder, postural cranial imaging abnormalities and death of the surviving after fetus loss in monochorionic twins are in the percentages of 68%, 26%, 34% and 15% respectively which Is lower in dichorionic twins in the percentages of 54%, 2%, 16% and 3% respectively.[4,10]

There is no general consensus on the gestational age of termination pregnancy of the surviving twin after the demise of a single twin.[6-10] However, if fetal death occurs in the first trimester there no much evidence of associated adverse outcome of the surviving fetus.[4,5] Thus pregnancy should be carried to term.[5-7]

On the contrary if the demise of a single twin occurs in the second or third trimester there is increased adverse effect of the surviving twin.[5]

Researchers have suggested in dichromic pregnancies in the advent of demise of one of the twins pregnancies should be carried to 38weeks provided the maternal and fetal well-being are normal except there is obstetric reasons for termination of pregnancy.[4-5]our second cases was of dichorionic placentation of which she was managed conservatively to 38 weeks of pregnancy and had an elective caserean section with a favourable outcome. For monochorionic twins myriad of clinicians will commence corticosteriods before 34 weeks of gestation due to the risk of preterm labour.[5]Our second case had monchorionic placentation of which the surviving twin was successfully managed conservatively to term and delivery was by an elective caesarean section at term with good maternal and fetal outcome. The monitoring of these pregnancies with serial ultrasound and coagulation test.[4-6]

In the monitory of these pregnancies with the demise of a single twin, fetal growth and amniotic fluid volume should be monitored closely.[4] Our patients had serial ultrasound scan monitoring together with their coagulation profile. Where ever is available a Doppler ultrasound is relevant to pressure peak systolic velocity in the middle cerebral artery is recommended monitoring for fetal anaemia. [4-8]

Persistent absent or reversal of end -diastolic flow in umbilical artery Doppler has been associated with severe fetal deterioration. Furthermore, intermittent absent or reversed end diastolic flow has been reported to be associated with unexpected fetal demise. [4-6]Normal umbilical artery Doppler pulsatility index carries the best prognosis.[5-6]

For the mother, serial monitoring of coagulation blood profile is recommended.[4-5]This was done for both cases reported and were normal. In addition attention should be made regarding blood pressure level and the presence of protein in the urine.[5-6,8-10]As this condition is associated with hypertensive disorders of pregnancy.[6]

Clinicians recommends that anti-Rho immunoglobulin should be given to rhesus negative mothers.[9,10] Furthermore, mode of delivery should be based on obstetrics criteria.[4-5]

A papyraceus fetus may result from incomplete absorption of dead fetus retained inside the uterus for at least 10 weeks, this undergoes fluid loss and mechanical compression between the membrane and uterine wall.[4] In our 2 reported cases there were no fetal papyraceous.

In our study by Weinet 14, 982 women were exposed to folic acid antagonist. The results revealed that they were at greater risk restricted fetal growth and fetal death.[9,10]

CONCLUSION

We have reported the two successful conservative management of surviving twins after the demise of a single twin. These pregnancies were high risk pregnancies associated with increase maternal and perinatal mortality of the mothers and their surviving twins. To ensure good prognosis the place of serial maternal and fetal monitoring cannot be over emphasized.

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