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Case Report

Delivery of the Second Twin, 115 Days After the Birth of the First: Case Report of a Rare Event

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Abstract

In twin pregnancies, usually the delivery of both the babies occur together with a difference of few minutes. However, in very rare situations the first fetus gets aborted during second trimester and the cervix gets reformed. In such rare situations after the abortion (vaginal expulsion) of the first fetus, prolonging pregnancy is a real challenge. The risks of haemorrhage, chorioamnionitis, coagulopathies and immediate abortion of the second fetus are very high. In such event, if the pregnancy is prolonged, preterm delivery of the second twin within next few weeks is very common.

We report a case of diamniotic, dichorionic pregnancy achieved through In Vitro Fertilisation (I.V.F.) in a 43 years old woman who also had diabetes mellitus. This patient had spontaneous onset of uterine contractions and leaking which resulted into expulsion of the first fetus at 17 weeks of gestation. The placenta of the first fetus and intact gestational sac of the other twin, were left in utero. The management included vigilant maternal monitoring, use of tocolytics antibiotics and delayed cervical cerclage. The pregnancy was prolonged for 115 days. The patient required caesarean section at 34 weeks for the development of severe pre-eclampsia and delivered a healthy male baby of 2.1 kg who required a brief stay of twelve days in NICU. Placentas of both the fetuses were removed during caesarean section.

This case is exceptional and there are no validated medical protocols for the management; the scientific evidence is still controversial.

Our care supports the prolongation of the pregnancy of the second twin with high medical vigilance.

Keywords: Assisted Reproductive Technology (A.R.T.); Twin; Pregnancy

Introduction

The incidence of multifetal pregnancies has increased in patients conceived through Assisted Reproductive Technology (A.R.T.) In such pregnancies, complications of premature rupture of membranes, preterm birth, intrauterine growth restriction and pre-eclampsia are observed more frequently than in singleton pregnancies [1,2]. Indeed, there is a higher prevalence of adverse neonatal outcomes in terms of morbidity and mortality [3,4].

Usually in twin pregnancies, both the babies are born together. But in very exceptional cases, the obstetrician can get opportunity to prevent the birth of the second twin, especially when the first fetus is expelled in the second trimester. The delay between

deliveries reported in the literature ranges from 1 to 152 days. Such event of delayed delivery of the second twin is considered as a very rare event. Delayed delivery of the second fetus should be considered in the following situations [5].

- Delivery of the first fetus before 30th week
- Diamniotic dichorionic pregnancy
- Intact membranes of the second fetus
- Absence of intramniotic infection
- Absence of fetal or maternal pathology requiring urgent termination of the pregnancy.

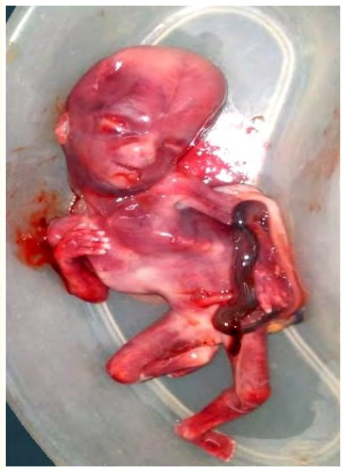
Delayed delivery of the second fetus is a flexible procedure and its application depends on the individual case situation [6].

Case Report

43 years old, registered primigravida who had conceived 16 years after marriage by In Vitro Fertilisation (I.V.F.) was admitted with frank leaking of amniotic fluid and mild uterine contractions. She was a diagnosed case of having diamniotic dichorionic twin pregnancy of 17 weeks gestation. Her earlier sonographies were showing concordant growth of both fetuses. She was a known diabetic patient taking injection Insulin 12 units twice a day along with oral metformin 1000 mg daily. She had no history of fever. Clinical examination revealed no obvious pathological findings, except mild uterine irritability. On vaginal examination, the cervix was about 2-3 cms. dilated but was not effaced with evidence of frank leakage of amniotic fluid. The head of the first fetus was felt. Biochemical investigations revealed mild leucocytosis (white blood cell count 12970), C-Reactive protein 0.58, and procalcitonine (PCT) negative.

She was kept under observation and antibiotic (Cefazoline 1 gm iv 8 hrly) was started. The frequency of uterine contractions increased over next 8 hrs and finally the 1st male fetus of 450 gms was expelled (Picture 1). However, the uterine contractions ceased after the expulsion of the first fetus. The expelled fetus was examined by neonatologist. The attempts of resuscitation were unsuccessful.

The patient had one bout of vaginal bleeding, but the placenta didn't come out. The sonography revealed retained placenta and intact gestational sac of the second twin with good fetal movements and cardiac activity. Two hours after expulsion of the first fetus, the uterus was found to be relaxed and vaginal examination revealed reformed cervix. With these observations, it was decided to make an attempt to conserve the pregnancy. The situation, pros and cons of prolongation of such pregnancy were discussed with the patient and relatives and the consent was taken for the further management. The thin umbilical cord of the expelled fetus was tied with vicryl and was left alone.



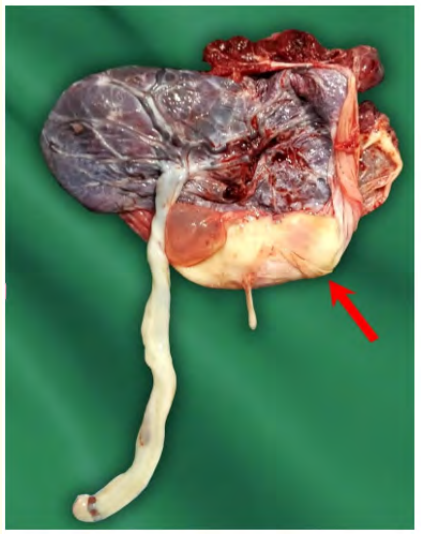
Picture 1: First fetus of the twins, expelled at 17 weeks.

Daily monitoring of the maternal condition for fever, uterine contractions, vaginal bleeding and hemodynamic parameters was meticulously done.

The parameters of infection like W.B.C. count, C.R.P., P.C.T. and coagulation profile were monitored twice a week.

Intravenous antibiotics were continued for 7 days. which were followed by oral cefuroxime 500 mg twice a day along with probiotics for a period of 15 days. The dose was tapered to 500 mg daily for 1 month. Oral progesterone in the form of dydrogesterone 10 mg twice daily was continued. Sonographic follow up was maintained the by fetal medicine consultant especially for the growth parameters, color doppler and for assessment of cervical length. The patient was discharged on request after one month and was called for weekly follow up of clinical and biochemical status. During follow up at 24 weeks, the cervix on clinical as well as sonographic examination was found to be becoming short and open. The cervical encerclage was done by Mc'Donalds method.

At 34 weeks of pregnancy, patient was detected to have developed severe hypertension not controlled with anti-hypertensives. She also had edema and proteinuria. Considering precious I.V.F. pregnancy, elderly age group, diabetic status and preeclampsia the decision of Caesarean Section was taken. The Surgery was uneventful. The patient delivered a male child of 2.1 kg having APGAR score of 9. The shrunken and atrophic placenta of the first fetus which was expelled at 17 weeks was also removed easily, though it was mildly adherent to the uterine wall (Picture 2).



Picture 2: Two placentas removed during caesarean section. Arrow points towards, shrunken and atrophic placenta and thread like cord of the fetus which was expelled at 17 weeks.

The uterus retracted well with no postpartum hemorrhage. Histological examination of the placenta of the second fetus didn't show any signs of infection. Patient had uneventful post op recovery. The baby was shifted to NICU and had respiratory distress in the form of grunting and retractions. Chest X-ray was suggestive of Respiratory Distress Syndrome. Surfactant was given by INSURE TECHNIQUE and baby was maintained on CPAP for 3 days. Baby required high flow oxygen therapy for 2 days. Full feeds were established on exclusive mother's milk.

Baby's blood screen for sepsis was negative during the hospital stay. Baby was discharged on 13th day. The follow up of baby is showing no other problems (Picture 3).

Picture 3: Healthy neonate at the time of discharge.

Discussion and Conclusion

In the cases of twin pregnancies, delivery of the babies occur together with a difference of few minutes. According to the literature, intentional delayed delivery of the second baby is a very rare event.

The main maternal risks of delayed delivery are chorioamnionitis and fulminant maternal sepsis, which occurs in 17 to 52% of patients [7]. Another complications like abruption of placenta and coagulation disorders are often seen which can end the pregnancy [8]. In judiciously selected rare cases, tocolytics, antibiotics and delayed cervical cerclage can be attempted to prolong the pregnancy. Vaginal examinations should be avoided and cervical length and dilatation of the cervix should be followed ultra-sonographically. Meticulous monitoring for evolving sepsis and coagulopathy must be done.

Attempts for delayed delivery should be made in properly selected cases, when the first neonate is born before 24th week of gestation. Continuation of the pregnancy till 32 to 34 weeks is recommended by Tzafettas., *et al*. [9].

Further research, including review of multicentre case reports is needed to design protocols of management for such rare cases.

Conflict of Interest

The authors declare that, they have no conflict of interest regarding the publication of this case report.

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