

Case Report

Prolonged latency period of 70 days in a diamniotic and dichorionic twin pregnancy complicated by early second trimester rupture of membrane in one sac and its outcome

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ABSTRACT

A patient with diamniotic dichorionic twin (DADC) pregnancy was on regular antenatal checkup from conception, admitted to emergency department at 21 weeks with leaking PV. On per speculum and pervaginal examination it was found that clear liquor was draining from os & cervix was long and os was closed. USG revealed twin A sac having live fetus of 20 weeks with no liquor and twin B sac having live fetus with plenty of liquor. Considering the emotional aspect of parents we decided for conservative management which includes combination of antibiotics, micronized progesterone as tocolytic, probiotics, L- arginine and absolute bed rest. Caesarean section was performed at 31 weeks as she entered in labour and had cord prolapse. She delivered two live twin babies after a long latency period of 70 days. Twin 'A' baby could not be saved because of lung hypoplasia due to prolonged Oligohydraminous but twin 'B' was discharged safely along with mother. Since last decade assisted reproduction technique has increased in numbers of twin pregnancies and its complications. The most important are preterm labour and PPRM. On literature review there is no clear cut guide line for management of PPRM in early second trimester in twin pregnancies. This case is reported because of its long latency period of 70 days from PPRM in early 2nd trimester in a twin pregnancy to delivery by conservative management and can save the baby in intact sac. Also we can add our experience to currently available limited literature regarding management of such patient.

Keywords: Twin, Latency period, Premature rupture of membrane (PPROM)

INTRODUCTION

Since last decade because of advance in assisted reproduction technique incidence of multiple gestations is increasing as well as its complications.¹ Preterm labour and PPRM of presenting fetus are encountered more frequently in late as well as in early second trimester. On reviewing available literature the incidence of PPRM in twin is 7% to 8% and the mean gestational age being 30 to 32 weeks.²⁻⁴ The median interval between PPRM to delivery is 10 days studies done on single tone and multiple pregnancies. Latency period of twin pregnancy

is shorter than single tone pregnancy & latency is longer when PPRM occur before 27 weeks of gestation.⁵ In our case has a long latency period of 70 days which is significant in reducing mortality and morbidity of twin having intact sac.

CASE REPORT

23 years old lady married since two years visited our infertility clinic for primary infertility. Both partners were subjected for investigations of infertility. Her menstrual cycles wear very regular. Her blood parameters and

hormone profiles (LH, FSH, TSH & Prolactin) were within normal limits. Her HSG report shows normal uterine cavity contour with left cornual block and right tube was visualized without definite spillage. Husband was found to be azospermic. She was subjected for DHL. Her DHL report shows normal uterine cavity, no adhesion in POD and no spillage in either side of tubes. After B/L cannulation right side tube had free spillage & left tube had restricted spillage. This couple was opted for donor insemination and she was conceived at 5th cycle of IUI. Her LMP was on 16th November 2014 and EDD on 23 August 2015. USG done on 28 December 2014 shows two intrauterine gestational sac with live embryos of 6 weeks of gestation. It was diamniotic and dichorionic twin pregnancy. Cervix length was 3.5cm. She was advised for rest and supplied with folic acids and micronized progesterone. Repeated USG was done at 14 weeks shows two separate placenta. For twin B it was implanted in anterior wall whereas for twin A it was in posterior wall, low lying covering internal OS. Cervical length was 3.3 cm. She was admitted in hospital at 21 weeks for leaking PV. P/S examination shows clear liquor discharge from external os. Cervix was long and os was closed. USG was done at time of admission revealed twin A sac having live fetus of 20 weeks with no liquor whereas twin B having 20 weeks fetus with adequate liquor. Cervical length measured that time was 3.3 cms. Because of emotional aspect of parents we decided for conservative management and she was managed with absolute bed rest and supplemented with antibiotics, micronized progesterone, probiotic capsule and L-arginine. Initial investigation reports shows TLC was within normal limit, no rise in CRP and no growth of organisms in urine culture and sensitivity. Staphylococcus growth was seen in high vaginal swab C and S (culture and sensitivity) which was sensitive to amoxiclav. DC, TLC and CRP were repeated twice weekly and high vaginal swab C&S once in two weeks. Throughout her course of management CRP was not raised. Second high vaginal swab shows E coli growth sensitive to Amikacin and 3rd swab c&s shows klebsiella which was sensitive to imipenem. Initially she was treated according to sensitivity report. Still her high vaginal swab showed klebsiella infection. We did not give her any antibiotics rather we treated her with probiotic capsules along with progesterone and L-arginine. USG monitoring was done once in 2 weeks for fetal growth. She was having continuous liquor discharge throughout the conservative management. Twin A was in breech presentation with no liquor in sac and twin B in cephalic with plenty of liquor in sac. Steroid was administered at 28 weeks of gestation. She was entered into labour at 31 weeks. On pervaginal examination it revealed that Cervix was dilated one finger with cord prolapsed of twin A as it was in breech presentation. Emergency caesarean section was done immediately. Twin A was male baby delivered by breech extraction weighing 1.6 kg whereas twin B was female baby weighing 1.5 kg. Because of low lying placenta of twin A Patient suffered from PPH which was managed by

stepwise devascularization and Blynch suture. Her postoperative period was uneventful. Both babies were admitted in NICU. Twin A male baby died on same day due to RDS (due to lungs hypoplasia as effect of prolong period of severe Oligohydraminous). Twin B female baby was discharged healthy along with mother after 12 days.



Figure 1: Two separate placenta in dichorionic diamniotic twin pregnancy.

DISCUSSION

Increase in assisted reproduction technique since last decade has increase in number of multifetal gestation and hence increase in its complications.¹ Preterm labour and PPROM are most common complication in multifetal gestation with one condition often leading to other. Ascending infection from vagina and cervix into the uterine cavity could be the important cause for PPROM.^{6,7} This most likely occurs if there is some degree of cervical dilatation that already exist due to cervical incompetence or increased intrauterine pressure. Ascending infection or rupture of the membrane can lead to preterm labour and subsequently delivery.⁶ PPROM has been shown to complicate 7%- 8% of all twin pregnancies compared to 2% - 4% of singletons.² The mean gestational age being 30- 32 weeks.^{2,4} Spontaneous PPROM has been reported to occur higher rate for about 18% in twin between 19- 26 weeks gestation.² Preterm is the major factor leading to perinatal mortality & morbidity in multifetal gestation and PPROM is associated with preterm deliveries.

The latency period from PPROM to time of delivery, seems to be shorter in twin compared with singleton pregnancies. Most studies report a median latency of less than 24 hours with only 16%-50% twin pregnancies remain undelivered at 48 hours, decreasing to 7% -22% at 7 days. Latency tends to be longer when PPROM occurs before 30 weeks of gestation in twin still shorter than the latency period in singletons.

Early PPROM is considered a complication with adverse fetal, maternal and neonatal outcome and hence

termination of pregnancy is commonly advocated in singleton as well as twin pregnancy.⁸ Other reported alternative includes selective termination of pregnancy with leakage of amniotic fluid and expectant management. Gestational age is most important predictor of Neonatal survival in infant delivered before 25 weeks of gestation. Significant improvement in fetal outcome can be obtained by prolongation of gestational period.^{9,10} In general approach to twin with PPROM should be individualized based on gestational age, maternal and neonatal risk on delaying the delivery to prolong the pregnancy. Contraindication to it includes chorioamnitis, abruption, and active preterm labour with advanced cervical dilatation.

In our case as it is an IUI conception with donor insemination and had leaking of lower sac at 21 weeks with both live fetus and with good cervical length we decided to have an expectant management.

While on expectant management she was hospitalized for absolute bed rest. Prophylactic antibiotic was given initially & there after according to antibiotics sensitive to high vaginal swab culture & sensitivity. Micronized progesterone was administered to prevent from preterm labour as the role of betamimetics as tocolytic therapy in PPROM both in singleton and multifetal gestation is controversial. Their ability to prolong pregnancy and prevent preterm birth is uncertain.¹¹ she was monitored with CRP, DC, and TLC twice in a week and with high vaginal swab culture and sensitivity once in two weeks. CRP is considered as good prognostic index for incipient chorioamnitis.^{1,6,12} As repeated high vaginal swab culture and sensitivity came to positive for Klebsiella infection in spite of treatment. We have stopped antibiotics and kept her under coverage of probiotics. Meta-analysis for use of probiotics during pregnancy is safe except the safety of saccharomyces sepsis whose safety is unknown.¹³ Amniotic fluid leakage in twin A sac was continued throughout her conservative management & did not reaccumulated. In our case as there was no evidence of intrauterine infection hence administration of steroid is beneficially.¹² She entered into labour at 31 weeks after a latent period of 70 days which is significant.

According to study by Zajicek M (outcome of twin pregnancies complicated early second trimester rupture of membrane in one sac) take home baby rate is 83% in expectant management while 18% survival rate described by De Catte et al 1998) in earlier case series. In case where the membranes of second twin remained intact with no evidence of ongoing labor or other obstetric risk factors, a conservative approach could be adopted.

In our case we could not save the twin A baby with leaking sac weight 1.6 kg died of ARDS due to lung hypoplasia. Twin B of weight 1.5 kg was survived and discharged with mother. This case is reported because though she was having twin with PPROM in early

trimester at least we succeed in giving her one healthy baby to take home by conservative approach.

CONCLUSION

Multiple gestation compromise 3% of all births and overall PPROM complicates 7% - 8% of twin pregnancy. Data's from most studies indicates 50% - 75% of all twin with PPROM will deliver within 48 hours and more than 75% within 1 week. On reviewing the literature about management of early PPROM in twin data's are sparse. As a result most recommend management of twin with PPROM is extrapolated from studies of singletons. However in general approach to PPROM in twin should be individualized based on gestational age, maternal and neonatal risk of delaying delivery to prolong the pregnancy. Informed consent of the patient should be taken and both parents and doctor must realize success can be neither predicted nor easily achieved.

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