ABSTRACT

Vasa previa is a rare obstetrical condition with very high incidence of perinatal morbidity and mortality when first presents in labour. The importance of the condition lies in prenatal sonographic diagnosis and cesarean section for the delivery before rupture of the membranes. Here is a case report on this rare condition, which was diagnosed antenatally and successfully managed with good maternal and fetal outcome.

KEY WORDS: vasa previa, cesarean section, prenatal diagnosis.

INTRODUCTION

Vasa previa is a catastrophic obstetrical emergency. It is up to 95% deadly for Infants or it is virtually 100% survivable. Key to the good outcome is prenatal diagnosis and cesarean section before rupture of membranes. Antenatal diagnosis is associated with 97% neonatal survival as compared to 44% in the absence of antenatal diagnosis.

Vasa previa is a rare obstetrical condition with antenatal diagnosis. In this condition blood vessels from the fetus are present in the lower segment of the uterus in front of the presenting part away from the placenta and umbilical cord only on the fetal membranes. There is potential to rupture of these vessels almost invariably once patient starts labour. It is associated with high fetal mortality due to fetal hemorrhage after membrane rupture in labour. This high fetal mortality can be avoided only with antenatal diagnosis of the condition and cesarean section for the delivery.

In developing countries like ours, antenatal care is not up to the standards and modern diagnostic facilities are not freely available. High index of suspicion is needed while dealing with patients with the risk factors of vasa previa to avoid catastrophic outcome.

CASE REPORT

A 30 years old emirate woman Para 1 and abortion 2, booked for antenatal care. She has history of previous two ectopic pregnancies resulting in salpingectomy of both fallopian tubes. It was followed by in vitro fertilization (IVF) pregnancy, delivered by emergency c/s due to deep transverse arrest and fetal distress 16 months back.

She got pregnant again by successful IVF procedure in Tawam hospital. She attended regular antenatal clinics. Her booking scan at 6 weeks showed viable twin fetuses with small subchorionic hemorrhage, which resolved by 12 week confirmed on scan. Patient remained asymptomatic with no vaginal loss.

Ultrasound at 9 week confirmed dichorionic diamniotic twin pregnancy.

At 14 weeks she visited emergency room due to mild vaginal bleeding. Ultrasound revealed viable twins with small hemorrhage measuring 2.5 1.6 cm, closed and 4cm long cervix. Patient refused admission for observation.

She was diagnosed as gestational diabetes (GDM) on oral glucose tolerance test at 21 weeks and managed on diet control.

Her anomaly scan in fetomaternal unit (FMU) at 22 weeks showed no major fetal malformation, adequate growth and a subchorionic hematoma of twin A.

She was diagnosed as possible lateral vasa previa of twin A on follow up scan in FMU at 25 weeks. There was a subchorionic hematoma at the level of dividing membrane of posterior placenta and accessory anterior placental lobe with possible lateral connecting vasa previa. Twin B showed normal growth with posterior placenta.

She was followed in twin clinic, GDM clinic and FMU jointly. Her Blood sugar was well controlled. She did not have vaginal bleeding. Inter twin growth discrepancy of less then 15% and stable size of subchorionic hematoma.

At 33 weeks she was planned for elective cesarean section at 35-36 weeks to be booked on next appointment with obstetrician (scheduled after 11 days). She was offered admission for observation in hospital, steroids for fetal lung maturity and blood sugar monitoring which she declined due to social reason with full understanding of the consequences.

Ten days after her last antenatal checkup patient rushed to labour & delivery unit of Tawam hospital due to preterm labour at 34+3 weeks. On admission she was having palpable uterine contractions leading to 5 cm dilated and effaced cervix. Membranes were intact with feel of blood vessels crossing from 2 to 110 clock position, show was minimum.

She was booked for urgent cesarean section. Babies delivered with in 22 minutes of admission. First twin was boy, delivered as cephalic weight 2115 gm. Second twin was girl delivered as breech weight 2040 gm. Both with Apgar score 9,10,10 admitted to neonatal intensive care unit.

On examination placenta were dichorionic with vasa previa of twin A. Histopathology showed marginal insertion of both umbilical cords into placenta.
None of the babies needed blood transfusion and discharged home.

Postpartum period of the patient was uneventful and she discharged home on 3rd day.

Twin A needed phototherapy due to physiological jaundice.

DISCUSSION

Vasa previa is a rare condition, incidence ranging from 1:1250 - 2700 with high fetal mortality rate up to 95% if undiagnosed antenatally. Urgent cesarean section has vital role to avoid high incidence of perinatal mortality and morbidity. Even in the presence of most advanced diagnostic techniques, this condition often remains unsuspected. Having high index of suspicion leading to antenatal diagnosis and elective delivery by cesarean section can reduce this high fetal mortality.

There is evidence in Current literature that the prior diagnosis of vasa previa by ultrasound shows successful perinatal outcome. The condition can be diagnosed as early as 16 week of pregnancy by using high-resolution transvaginal ultrasound with color Doppler. On the other hand transvaginal ultrasound with color Doppler as a screening tool for the general population of pregnant females is not cost effective and some cases can be missed from diagnosis antenatally.

Alternative methods of diagnosis such as digital palpation of vasa previa, amnioscopy, Apt test, Ogita test (for fetal blood detection) are of historical significance. MRI is also a diagnostic test but is expensive. All these methods need more expertise and time. Easy availability and speedy diagnosis make color Doppler ultrasound as method of choice.

Most of the patients with this condition have a number of risk factors. These are low lying placenta in the mid trimester, Placenta previa, Bilobed placenta, succenturiate lobe, Velamentous insertion of the cord, Multiple pregnancies, IVF pregnancy. Presence of one or more risk factors should alert physician. Targeted screening is recommended with ultrasound examination while it must be remembered that few cases may still escape diagnosis.

Few interventions are suggested which have shown improved outcome. These include: Hospital admission from 28-32 weeks of pregnancy. As the uterus start to prepare for birth, there is more risk of membrane rupture during this time. The patient of vasa previa who experience membrane rupture, end up with fetal loss, no matter how close they live to the hospital. Tocolysis is used to stop uterine activity. Few centers advocate tocolysis others do not mention. Pelvic rest including no intercourse or digital examination other then TVS (proven to be safe) is of Controversial role, Corticosteroids administration for maturation of fetal lung. Delivery by caesarean section before rupture of membrane. Time of elective cesarean section is again a grey area. Cesarean section between 35-37 weeks is mostly recommended. This gestational age has highest survival rate of infants and much easier to manage prematurity. Preoperative mapping of fetal vessels by color Doppler can be used to avoid laceration intra-operatively. At surgery care should be taken not to incise the membranes to avoid laceration of vessels. Examination of placenta after delivery confirms the diagnosis of vasa previa.

Delivery should be in a unit with pediatric life support and availability of blood in case aggressive resuscitation is needed. Prenatal diagnosis and delivery by Cesarean section before rupture of membranes has been suggested as keys to improved fetal outcome.

While antenatal diagnosis of vasa previa reduces the bad fetal outcome, undiagnosed cases can still come across in routine practice. Fetal heart rate abnormalities in labour like variable decelerations and sinusoidal pattern, intrapartum vaginal bleeding associated with fetal bradycardia at the time of membrane rupture should raise the suspicion of vasa previa. Many caesarean sections done for fetal heart rate abnormalities show vasa previa on inspection of placenta after the procedure.

CONCLUSION

Neonatal death from vasa previa is a preventable tragedy. Prenatal diagnosis and elective cesarean section at 35 weeks is the key to successful fetal out come. All the cases with risk factors should be screened for vasa previa by transvaginal ultrasound and color Doppler to optimize the out come. High index of suspicion is required at the time of amniotomy in undiagnosed cases of vasa previa.

REFERENCES


