PLACENTAL CORD INSERTION ABNORMALITY, A CAUSE FOR ASSYMETRICAL IUGR WITH PIH

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ABSTRACT

The incidence of velamentous insertion of the umbilical cord is about 1% in singleton pregnancies. Prevalence of velamentous insertion of the umbilical cord is approx 0.22% worldwide.

Prenatal diagnosis of velamentous insertion of the umbilical cord is of practical importance since unsupported vessels in the amnion may be lacerated at the time of membrane rupture. Failure to diagnose ruptured vessels can lead to fetal death. This mode of insertion occurs much more frequently with multi-foetal pregnancies.

We present a case of 32 yrs old women who presented with amennorrhoea for 8 months. With history of previous first trimester abortion, she was found to be of 34 weeks gestational age, clinically. USG revealed fundo-posterior right lateral grade 3 placenta with no retroplacental clot or infarction. Biophysical profile score was 6-8 and Doppler showed uteroplacental & foetoplacental insufficiency. Emergency caesarean section was done on 2/5/2013, which revealed placenta-cord to be thin with normal length but cord insertion was 5cm away from placental margin. Female baby of 2kg weight was delivered by vertex who cried immediately. APGAR score was 7 at birth and 8 after 5 minutes. Newborn had no congenital anomalies.

KEYWORDS

Placental abnormality, IUGR, Gestational hypertension

CASE REPORT

A 32 yrs old lady presented to our unit with amenorrhea for 8 months, appreciating fetal movements well. She was originally registered with her family physician and had an USG done at 11 weeks. She did not have any follow up ultrasound. Her obstetric history revealed past history of first trimester spontaneous abortion at 12 weeks gestation followed by surgical evacuation a little more than year ago. She had conceived 6 months post

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abortion. Pt was diagnosed to be a case of PIH and had been started on methyldopa 2 weeks before her presentation to our unit. She also complained of pedal oedema for last two weeks. On further evaluation of her menstrual history, she had regular painless menstrual cycles 3-4 days every 30 days with average flow. Her menstrual age from history was 35 weeks and 6 days.

On clinical examination, she was found to be normal weight for height with mild pedal oedema. Her BP was 130/90 mmHg, fundus was normal. Per abdomen uterus was 34 wks, relaxed, Vertex right occipito anterior head was fixed. Liquor was less for period of gestation. Fetal heart rate was 146 beats per minute, regular. Clinical gestational age was 34 weeks. Symphasis fundal height was 34 cms.

Biophysical Profile score was 6-8. On local examination there was no vulval edema or varicosities, no leak or pv bleed. On per vaginum examination cervix was soft, in mid position and os was closed, un-effaced with head high up and floating. Pelvis was adequate with bishop score <6.

She was hospitalized and regular monitoring was started with strict input output charting. She was instructed to rest in left lateral position & keep the kick count. Counseling regarding diet & hygiene was done and warning signs were explained in detail.

She was started on tablet methyldopa 500 mg three times a day & tablet labetelol 100mg twice a day. Betamethasone 12 mg injection, total of two doses were administered to the patient. IV antibiotics were also started.

Most of her blood investigations were normal with HIV, HBsAg and VDRL being non reactive. FBC, U&E, LFT and Coagulation profile was all within normal range.

As per the ultrasound done at 11weeks by her family practitioner, her gestational age was calculated as 35 weeks which was corresponding with menstrual age. She had an USS done on admission which reported her mean gestational age to be 33 weeks, expected fetal weight to be 2248 gms, amniotic fluid index to be 7.8cm. Placenta was found to be fundo posterior right lateral, grade 3 with no evidence of retroplacental clots or infarction. Compared to findings of first USS, most recent showed a 3 week lag. There was evidence of Uteroplacental & fetoplacental insufficiency in her Doppler blood flow study, which showed end diastolic notch in uterine artery. Reversal of flow was seen in umbilical artery. Resistive index & pulsatility index value of umbilical artery and MCA was 0.48 & 0.66 and 0.56 & 0.79 respectively .

Based on the workup, in summary patient was 2<sup>nd</sup> gravida with first abortion at 36wks of pregnancy, with mild Pregnancy induced hypertension, unfavourable cervix, asymmetrical intra uterine growth retardation, mild oligoamnois, abnormal biophysical profile & doppler blood flow study in umbilical artery end diastolic notch.

Emergency LSCS under spinal anesthesia was done.
Intraoperatively Lower uterine segment not well formed. 50-60 ml clear liquor was there. Female Baby of 2kg weight was delivered by vertex who cried immediately. APGAR SCORE was 7 at birth and 8 after 5 minutes. Newborn had no congenital anomalies. Placenta & membranes completely delivered & were not adherent. Placenta was posterior on right side on body of uterus. Cord was thin, normal length, cord insertion 5cm away from placental margin. Placenta was Small size, 400 gms with evidences of Infarction. No retroplacental clot was seen. Subserous sessile posterior 3x3 cm fibroid on left cornu was found showing no degenerative changes. There was Evidence of endometriosis on posterior uterus & Bilateral ovarian surface. Uterus was sutured in two layers. Confirming complete mop & instrument counts, abdomen was closed in layers taking care of hemostasis. There was average blood loss in procedure.

Breast feeding was established in 2 hours of procedure. Postoperative day one was uneventful. Day two, for complaint of dyspnoea, chest physician reference was done & chest physiotherapy was given. Post operative days 3, 4, & 5 were uneventful. Oral antibiotics were given and tab amlovas 2.5 mg twice daily was administered & BP monitoring was done for her. Stitch removal was done on day 7 & patient was discharged to stay along with baby in Paediatric ward for 15 days.

DISCUSSION

Early prenatal identification of velamentous insertion of the umbilical cord is a desirable clinical goal since these pregnancies are at greater risk for adverse perinatal outcome including FGR, preterm birth, congenital anomalies, fetal distress and fetal bleeding.[1-7]

In approximately 99% of singleton pregnancies the umbilical cord inserts either directly into the placental tissue or marginally on the placental edge.[1] In the remaining 1% of cases the umbilical cord insertion is located away from the placental mass, allowing a variable segment of umbilical vessels to run between the membranes unsupported by Wharton's jelly. This condition, known as velamentous insertion, has been associated with several obstetric complications including fetal growth restriction (FGR), PIH, prematurity, congenital anomalies, low Apgar scores, abortion, low birth weight, premature delivery, fetal malformation, fetal hypoxia and intrauterine fetal death and retained placenta[1-7]

In spite of the obvious importance of prenatal detection of velamentous insertion of the umbilical cord in obstetric practice, only a few studies have focused on the systematic identification of the placental cord insertion site during prenatal ultrasound.[9-11]

It was noted that the use of color Doppler ultrasound enhanced umbilical cord visualization even in difficult cases and, therefore, should be the modality of choice to image the placental cord insertion site at routine obstetric ultrasound. Nevertheless, we consider that ultrasound identification
of the placental cord insertion site does not require additional skills, but it should be performed in a systematic fashion in order to be useful for screening velamentous insertion.

**CONCLUSION**

Placental Abnormalities are associated with reduced placental efficiency but has been rarely reported day to day. Placental abnormalities are associated with adverse pregnancy outcomes fetal growth restriction (FGR), PIH, prematurity, congenital anomalies, low Apgar scores, abortion, low birth weight, premature delivery, fetal malformation, fetal hypoxia and intrauterine fetal death and retained placenta. [8] *Timely diagnosis with* Transvaginal color Doppler imaging and serial scans were needed to identify vasa previa routine sonography in the mid-trimester.

Or it can reliably be detected prenatally by gray-scale and color Doppler ultrasound.
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REFERENCE