Umbilical Cord Abnormalities

Purpose: To assist OB providers managing women with umbilical cord abnormalities in pregnancy.

Single Umbilical Artery (SUA)

Definition: A variation of umbilical cord anatomy in which there is only one umbilical artery.

- Occurs in 1/200 singleton deliveries; more common in twins
- Most cases are isolated
- Associated with increased risk of additional congenital malformations (25-30%), IUGR (10-20%) and preterm delivery (15%)
- If additional malformations are present, increased risk of perinatal mortality

Recommendations:
1. Referral to MFM for detailed anatomy ultrasound
2. If isolated SUA:
   - No indication for genetic testing
   - No indication for fetal echocardiogram
   - Growth ultrasounds at 28 and 34 weeks
   - No indication for antenatal testing
   - Deliver at term for standard obstetric indications
3. If SUA with additional malformations:
   - Offer genetic testing – there is a 50% chance of aneuploidy with additional malformations
   - Fetal echocardiogram at 22-26 weeks
   - Growth ultrasounds at 28, 32 and 36 weeks
   - Twice weekly NSTs starting at 32 weeks
   - Deliver at 39 weeks, unless indicated earlier
   - Perform cesarean section for standard obstetric indications

Umbilical Vein Varix

Definition: Focal dilation of the intraabdominal umbilical vein measuring >9 mm diameter or intraabdominal umbilical vein diameter that is 50% larger than intrahepatic umbilical vein

- Found in 1/1,000 pregnancies
- 2/3 of cases are diagnosed after 28 weeks gestation
- Most do not enlarge significantly during pregnancy
- Increased risk for additional malformations (20-30%), IUGR (5-10%), varix thrombosis (1%) and IUFD (5-15%)

Recommendations:
- Referral to MFM for detailed anatomy ultrasound
- Offer genetic testing if any additional abnormalities
- MFM ultrasound to evaluate for varix size and flow and fetal hydrops every 1-2 weeks
- Twice weekly NSTs starting at 32 weeks
- Deliver at 37 weeks
- Perform cesarean section for standard obstetric indications
Marginal Cord Insertion

Definition: Umbilical cord insertion <2 cm from the placental edge
- Found in 2-10% of pregnancies
- More common in monochorionic twins
- Not associated with pregnancy complications

Recommendations:
- Routine prenatal care
- No indication for growth ultrasounds
- No indication for antenatal testing
- Deliver at term for standard obstetric indications

Velamentous Cord Insertion

Definition: Umbilical cord insertion into the membrane rather than into the placenta
- Occurs in 1% of all pregnancies
- More common in multiple gestations and in the setting of placenta previa
- Increased risk for IUGR (15-20%), preterm delivery (10-15%), abruption (5-10%), vasa previa (3-5%) and need for manual removal of the placenta (15%)

Recommendations:
- Referral to MFM for detailed anatomy ultrasound and transvaginal ultrasound to assess for vasa previa
- Growth ultrasounds at 28, 32 and 36 weeks
- No indication for antenatal testing
- Deliver at term for standard obstetric indications
- Perform cesarean section for standard obstetric indications

References:


