Management of Stillbirth

Background:
Stillbirth is typically defined as a fetal death that occurs at 20 weeks or greater of gestation, or a weight greater than or equal to 350 grams. It occurs in 6 per 1,000 births.

Risk Factors:
- Non-Hispanic black race
- Nulliparity
- Advanced maternal age
- Obesity
- Tobacco use
- Drug and alcohol use
- Multiple gestations
- Maternal medical conditions, including:
  - Hypertension
  - Diabetes
  - Antiphospholipid syndrome (APS)
  - Lupus
  - Renal disease
  - Severe cardiac disease
  - Sickle cell disease
  - Thyroid disease
  - Cholestasis of pregnancy
- Uteroplacental insufficiency / Fetal growth restriction
- Placental abruption
- Infections, including:
  - Parvovirus B19
  - Syphilis
  - Cytomegalovirus (CMV)
  - Listeria
  - Malaria
- Congenital anomalies / Aneuploidy / Genetic syndromes
- Past obstetric history (e.g., growth restriction, preeclampsia)

Management:
1. Obtain maternal history
   - Maternal medical conditions
   - Maternal medications
   - Potential infectious exposures
   - Prior obstetric history
   - Family history (three-generation pedigree, if possible)
2. **Perform maternal laboratory testing:**
   - Type & screen
   - CBC
   - Syphilis (RPR)
   - Kleihauer-Betke (KB)
   - Thyroid stimulating hormone (TSH)
   - Lupus anticoagulant
   - Anticardiolipin antibody (IgG and IgM)
   - Beta-2-glycoprotein antibody (IgG and IgM)
   - Parvovirus B19 serologies (IgG and IgM)

**Other possible laboratory testing, in selected cases:**
- Hemoglobin A1C, if suggested by maternal history or large fetal size
- CMV and toxoplasmosis serologies (IgG and IgM), if suspected
- Evaluation for inherited thrombophilias **ONLY** if:
  - Severe placental pathology
  - Significant fetal growth restriction
  - Personal or family history of thrombosis

3. **Discuss plan for delivery**
   - Most patients will desire prompt delivery, however timing is not critical
   - If early gestational age, can offer dilation and evacuation (D&E), depending on available skilled providers
     - Not able to perform fetal examination / autopsy
   - If later gestational age, discuss induction of labor:
     **Up to 23 weeks 6 days’ gestation:**
     - 800 mcg vaginal misoprostol followed by 400 mcg misoprostol, given buccally or vaginally every 3 hours

     **24 weeks 0 days through 28 weeks 6 days:**
     - 200-400 mcg misoprostol, given by buccal or vaginal route every 4-12 hours

     **29+ weeks’ gestation**
     - Term labor induction protocols

   - If one previous cesarean delivery:
     **Prior to 24 weeks’ gestation:**
     - 800 mcg vaginal misoprostol followed by 400 mcg misoprostol, given buccally or vaginally, every 3 hours

     **Beyond 28 weeks’ gestation:**
     - Cervical Foley for cervical ripening and oxytocin for induction

   - Anesthesia consult on admission
4. Examine fetus at delivery, including:
   - Fetal weight
   - Dysmorphic features (include description in maternal medical record)
   - May opt to take photographs of abnormalities, if Genetics is not available

5. Send placenta to Pathology to examine placenta, cord, and membranes
   - If concern for infection, obtain placental culture

Offer fetal autopsy, which requires separate consent
   - May be complete or limited autopsy, depending on parental preferences
   - If autopsy is declined, offer external examination and measurements only
   - If autopsy is declined, offer fetal whole body X-ray

6. Offer genetic testing
   - Microarray preferred, as more likely to yield result per ACOG
   - Obtain sample:
     Placental block (1 x 1 cm) taken from below cord insertion site, OR
     Umbilical cord segment (1.5 cm) closest to placenta
   - Place sample in sterile tissue culture medium

7. Offer examination/consult by Genetics, IF known fetal anomalies

8. Discuss disposition of fetus, which is either:
   - Burial / cremation by funeral director of choice
   - Disposal as an anonymous specimen by the hospital
   - Release remains to designated person, which may require transit permit

9. Offer emotional support services, including:
   - Spiritual Care
   - Local support groups

10. Provide patient counseling, including:
    - Etiology of stillbirth is unknown in ~50% of cases, despite full workup
    - Risk of recurrence is LOW for unexplained stillbirth (< 1%)
    - Higher risk of fetal loss for women with risk factors (e.g., diabetes)
    - Plan for increased fetal surveillance in 3rd trimester for future pregnancy
    - Recommend delivery of future pregnancy at 39 weeks’ gestation

Reference: