MY PATIENT WAS JUST DIAGNOSED WITH A STILLBIRTH, WHAT SHOULD I DO?

Written and contributed by Brian Monks, M.D

Stillbirth, a fetal death that occurs at a gestational age of 20 weeks or more, is a common, negative outcome associated with pregnancy and it can be devastating to patients, their families, and the healthcare providers who take care of them. Historically, many of these cases have remained unexplained. The causes of stillbirths, according to Dr. Ruth C. Fretts, head of ACOG's Task Force, have not been well understood by many providers. Furthermore, a consensus on how to manage this clinical situation has been traditionally lacking.1

GENERAL INFORMATION: 1,2,3

- About 1 out of every 160 deliveries in the USA ends in a stillbirth
- Stillbirths account for about 60% of all perinatal mortality in the USA (around 25,000 cases per year)
- The USA has the lowest autopsy rate among developed countries when used specifically to evaluate stillborn infants (this practice has most likely hindered the cause of death determination in many cases)4
- There are no preventive measures known to guarantee protection against stillbirth but optimizing maternal health prior to conception as well as during pregnancy can substantially reduce the risk
- Providers must be sensitive to the family's emotional state and give those in grief an opportunity to hold/touch/photograph the baby and perform religious activities
  - For example, baptism, a visit/prayer session with a member of clergy
- A thorough investigation into the potential cause of a stillbirth can be helpful and therapeutic; families want answers. Knowing the cause can help with future pregnancy counseling and bring closure to the situation.
- Ideally, autopsies should be done only by experienced perinatal pathologists, if available5,10
  - MRI imaging is probably the most valuable alternative to autopsy5,7
  - aCGH (array comparative genomic hybridization) is superior to karyotyping in as it does not require dividing cells to provide a genetic diagnosis8
- Certain aspects of stillbirth testing may not be covered by some medical insurance plans
  - Cost considerations must always be discussed with the affected parents/families prior to ordering

RISK FACTORS:1,2,3

- Non-Hispanic, black women (11.25/1,000 births vs. 6/1,000 births)
- Nulliparity
- Hypertension
- Diabetes (up to 5x higher risk for pregestational diabetics, especially if diabetes mellitus is poorly controlled at the time of conception)
- Obesity (11/1,000 live births if morbidly obese with a BMI > 40
- Advanced maternal age
• Multiple gestation (up to 4x higher risk, especially if > 2 fetuses)
• History of previous placental abruption
• Epilepsy
• History of live born infant in a prior pregnancy complicated by fetal growth restriction; very high risk of 21.8/1,000 births; Please note

MOST COMMON CAUSES:\textsuperscript{1,2,3}

• Fetal growth restriction
  o associated with a myriad of pregnancy-related problems
• Placental abruption
  o HTN/preeclampsia, cocaine/illicit drug use, smoking
• Chromosomal/genetic abnormalities
  o most common: T-21, T-18, T-13, and monosomy X (Turner syndrome)
• Infections
  o especially CMV, toxoplasmosis, parvovirus B-19, and Listeria
• Umbilical cord problems/abnormalities
  o should have evidence of obstruction or some type of circulatory compromise since cord abnormalities without these other features can be seen in about 1/3 of normal live births\textsuperscript{5}

EVALUATION – Determined Case by Case:\textsuperscript{1,2,3,4,10}

• A thorough maternal history, including family history
• Kleihauer-Betke (KB) test (screen for fetal-maternal hemorrhage severity estimation)
• Urine toxicology
• CBC/CMP
• RPR
• TFTs/HgbA1C/serum fibrinogen level
• Lupus anticoagulant and anti-cardiolipin antibody titres (evidence of APS)
• Placental examination (gross and microscopic) plus cord examination (length, number of vessels)\textsuperscript{5}
• CMV/toxoplasmosis titres (IgG + IgM), parvovirus B19 titre (IgM)
• Listeria/aerobic/anaerobic cultures (from the area between the amnion/chorion) or PCR testing, if available
• Autopsy - suggested in all cases\textsuperscript{4}
• Genetic testing (karyotype, array comparative genomic hybridization or aCGH)
  o Suitable, less invasive alternatives to autopsy (if declined by mother) include x-rays of long bones, photographs, ultrasound/MRI/CT imaging, skin/blood/amniotic fluid samples\textsuperscript{4,6}

ESTIMATING TIME OF FETAL DEATH

Predictors: External exam only\textsuperscript{9}

• Brown-red discoloration of umbilical cord stump, cord desquamation of > 1 cm (at least 6 hours)
• Desquamation of face, abdomen or back (at least 12 hours)
• Desquamation of multiple body zones, > 10% body surface (at least 18 hours)
• Brown-tan skin color (at least 24 hours)
• Mummification (at least 2 weeks)
INDICATIONS FOR TISSUE CYTOGENETIC ANALYSIS:¹,²,³,⁴

- Clinician/parental request
  - usually for cases with unexplained causes of death
- Third pregnancy loss
  - especially if consecutive in nature
- Nonimmune hydrops fetalis
- Severe fetal growth restriction
  - estimated fetal weight < 3%
-Known maternal/paternal balanced translocation
- Verification of abnormal prenatal karyotype/cytogenetic analysis
- Anomalous fetus

REFERENCES