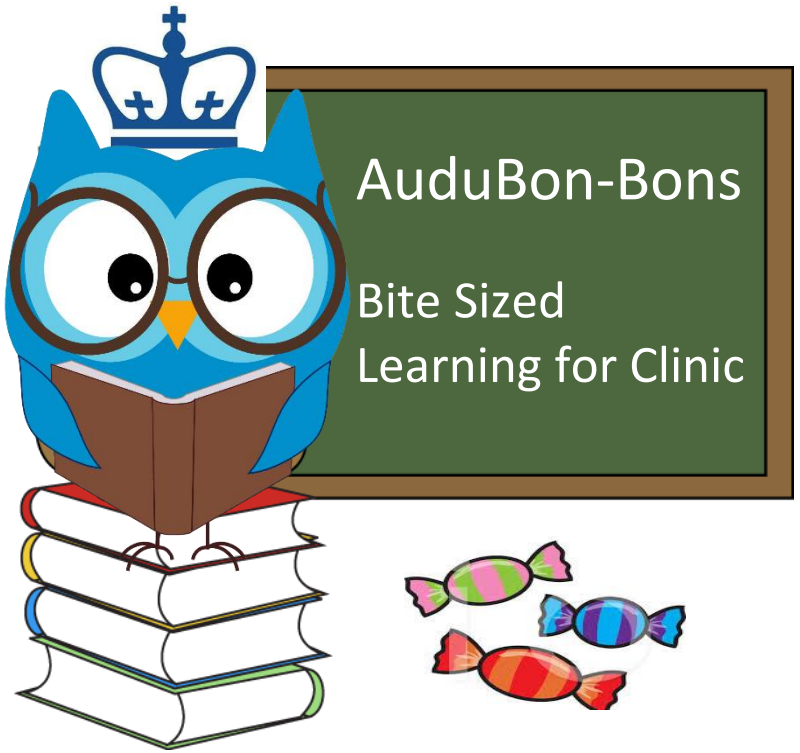
SECOND TRIMESTER LOSS



Week 53

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SDH and .phrase slides by Chloé Altchek, MS4

Reading Assignment:
ACOG Practice Bulletin No. 102, Management of Stillbirth

LEARNING OBJECTIVES

- Understand basic definitions regarding fetal loss
- Understand basic assessment and management options
- Learn how to counsel patients on their options in their current and future pregnancies

CASE VIGNETTE

Your patient is a 43 yo G4 P0120 woman at 26w5d EGA by first trimester ultrasound who presents for routine OB visit. Her husband accompanies her. This is an unplanned, but desired pregnancy. She has been feeling well. She denies any vaginal bleeding, contractions, or loss of fluid. She felt fetal movement starting at 20 weeks but reports not feeling much movement in the past few days.

FOCUSED HISTORY

What elements of the patient's history are most relevant?

- **POBH:** **G1-EPF @ 5 weeks; G2-medical abortion @ 8 weeks; G3-20 week PPROM and PTD**
- **PGYNH:** Menarche at 13 yo; regular monthly cycles; denies STIs, fibroids, cysts, or abnormal paps
- **PMH:** Hypothyroidism
- **PSH:** Denies
- **FH:** Denies
- **SH:** No toxic habits; works as a lawyer; denies IPV; accepts blood
- **Meds:** Levothyroxine, PNV, weekly IM progesterone
- **All:** NKDA

PERTINENT PHYSICAL EXAM FINDINGS

What elements of the patient's physical exam are most relevant?

VS: P 88 **BP:** 138/72 **Wgt:** 90 kg **Hgt:** 170cm **BMI:** 31.1 kg/m^2

- **General:** NAD, well-appearing
- **Fundal height**: 22 cm
- **FHR**: Unable to detect by via handheld doppler
- **Bedside TAUS:** Absent fetal cardiac activity, fetus measuring 23 weeks, hydropic in appearance

DEFINITIONS: REVIEW

Early pregnancy loss

- Nonviable IUP up to 12w6d

Early second-trimester loss

- Nonviable IUP 13w0d - 19w6d

Fetal demise/stillbirth

- Nonviable IUP 20w0d+ OR weight 350 gm or greater
- **Early stillbirth**: 20-27 wks
- **Late stillbirth**: 28-36 weeks
- **Term stillbirth**: 37+ weeks

BACKGROUND

What percentage of pregnancies result in early second-trimester losses?

- 2-3%

What is the rate of early stillbirth (20-27 weeks) in the U.S.?

- 3.2/1000 births

What are the most prevalent risk factors associated with stillbirth?

- Non-Hispanic black race, nulliparity, advanced maternal age, obesity

ETIOLOGIES

Table 1. Commonly Reported Maternal Risk Factors and Causes for Stillbirth

Developed Countries	Developing Countries
Congenital and karyotypic anomalies	Obstructed and prolonged labor and associated asphyxia, infection, and birth injury
Growth restriction and placental abnormalities	Infection especially syphilis and gram-negative infections
Medical diseases such as diabetes, systemic lupus erythematosus, renal disease, thyroid disorders, and cholestasis of pregnancy	Hypertensive disease and complications of preeclampsia and eclampsia
Hypertensive disease and preeclampsia	Congenital anomalies
Infection such as human parvovirus B19, syphilis, streptococcal infection, and listeria	Poor nutritional status
Smoking	Malaria
Multiple gestation	Sickle cell disease

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ACOG PB No. 102, table 1

In early 2nd TM losses, infection is often a factor;
One study showed that 77% had evidence of chorioamnionitis;
Up to 19% of stillbirths < 28 wks are caused by infection

ETIOLOGIES

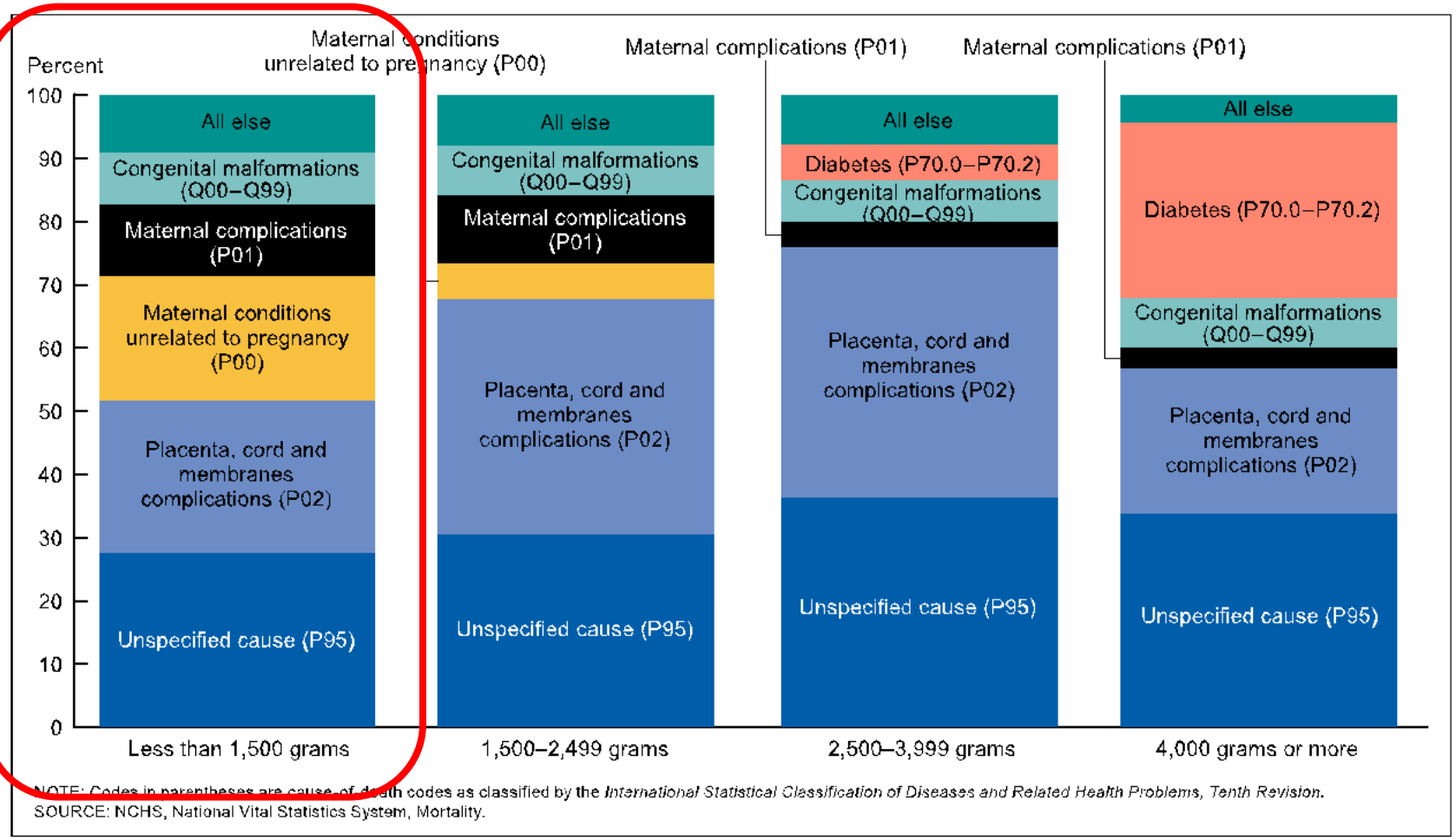


Figure 4. Comparison of distribution of five selected causes, by birthweight: 37 areas, 2014

CDC/NIH, National Vital Statistics Report, Cause of fetal death, 2014, Fig 4.

CLINICAL EVALUATION AND MANAGEMENT

Confirm fetal loss with ultrasound

- If possible, ascertain age at which demise occurred (will determine surgical options in terms of management)

Counsel patient on options

- What is the appropriate **timing and method of delivery**?
  - Depends on gestational age, maternal history of prior uterine scar, and maternal preference
  - Timing is not critical; coagulopathies are possible but rare
  - Take into account other risk factors (i.e., PROM and risk of impending chorio)
- What are the benefits of **medical management?**
  - Efficacy of autopsy to detect macroscopic fetal abnormalities better than D&E
  - Able to hold remains
  - If no experienced provider available for D&E or if gestational age is beyond what is feasible for D&E
  - Contraindications to anesthesia required for surgery
  - Safe in women with prior scar from cesarean; less info with multiple prior C/S
- What are the benefits of **surgical management**?
  - Some studies have shown that D&E has a lower complications rate (4%) than with miso-only induction regimens (22%); complications include retained products, failed induction
- D&E should always be offered if experienced provider is available and within scope of that provider's practice; if experienced providers are not available, induction is the safer method
  - If timing is an issue for your patient, take into consideration the delay to D&E completion due to cervical dilation requirements (at CUIMC, 2 days for 20+ week D&Es)

Counsel patients on tests available, including the most pertinent evaluations, in order to obtain consent in a timely manner

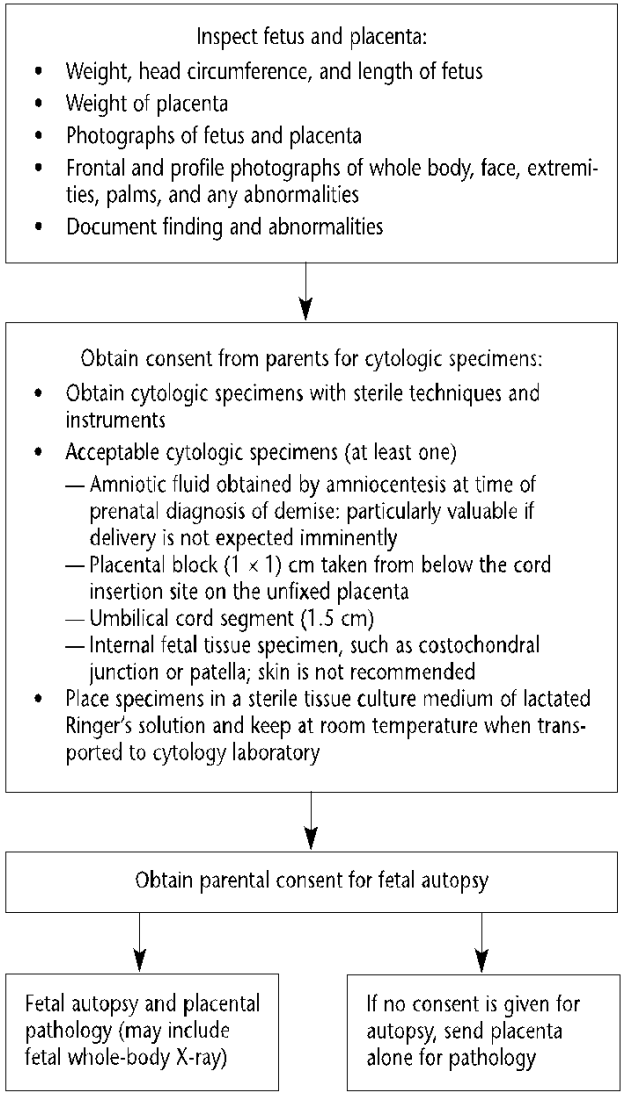
CLINICAL EVALUATION AND MANAGEMENT

What are the essential assessments that should be performed?

- Fetopsy; assessment of placenta, cord, membranes; karyotype
  - At CUIMC, recommend microarray testing

How else do you assess the patient?

- Maternal history (VTE, DM, cHTN, thrombophilia, SLE, epilepsy, autoimmune diseases, severe anemia, heart disease, toxic habits; FHx of congenital issues or VTE; OBHx, esp RPL, prior ob comps; current med issues, including AMA, med issues like PEC/cHTN, BMI/obesity, multifetal gestation, trauma, placental abruption, PTL/PROM, ultrasound abnormalities, infections)
- Maternal lab evaluation
  - CBC, K-B, parvo B19 IgM/IgG, RPR, lupus anticoagulant, anticardiolpin antibodies, TSH, thrombophilia (in selected cases)
  - Other tests to consider for certain clinical scenarios:
    - T&S, urine toxicology, A1C/GCT, Protein C/S (postpartum)
- Amniocentesis with genetic testing has the highest yield (if delivery not imminent)



ACOG PB No. 102, Fig 1

CLINICAL EVALUATION AND MANAGEMENT

In cases of medical management, what is the appropriate regimen?

- **Mifepristone** 200 mg PO x 1, followed by **misoprostol** in 24 hours
  - Misoprostol 600-800 mcg PV then 400 mcg PV q3 hrs
- If no mifepristone misoprostol 600-800 mcg PV/SL , then 400 mcg q3 hrs
- Rest for 12 hours if no completion after 5 doses, then restart process
- High-dose **Pitocin** is less effective in the 2nd trimester

What is risk of recurrence in low-risk women with unexplained stillbirth after 20 weeks?

- **7.8-10.5/1000**, usually before 37 weeks of gestation

How do you manage such women in subsequent pregnancies?

- Maternal workup (history, prior loss workup); reduction of maternal risk factors (toxic habit cessation, weight loss, DM control, genetics counseling for positive FHx, support/reassurance)
- Antepartum surveillance starting at 32 weeks
- Induction/delivery at 39 weeks
- Always provide support and reassurance; sensitivity is key

SOCIAL DETERMINANTS OF HEALTH

Lasting psychological impacts of stillbirth:

- Grief-related **depressive symptoms at 1 year** (anxiety, post-traumatic stress, suicidal ideation, panic, and phobias)
  - May persist for ≥4 years in many cases
- Adverse **effects on parent-child relationships** may impact sibling's long-term mental and physical health
- Persistent feelings of **remorse or guilt** for not being able to save the baby
- Psychologic **distress persists into future pregnancies** (emotional volatility, fear of preparing for the birth of the subsequent baby)

Stillbirth also has substantial effects on HCPs. Education, training, formal/informal support during and after stillbirth have been shown to decrease negative effects on care providers.

Disenfranchised Grief (when grief is not legitimized by care providers or society)

- Capacity to express grief reactions is an important part of recovery
- Many care providers don't consider death before birth equivalent to the death of a child
- Fathers reported feeling unacknowledged as a legitimately grieving parent (increases risk of chronic grief)

EPIC .PHRASE

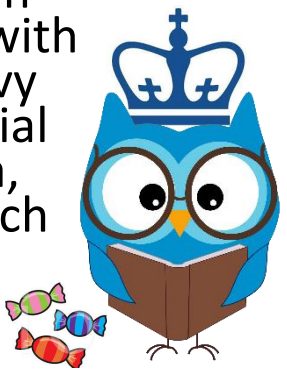
BBonSecondTriLossCounseling

Description: Second trimester loss counseling

Pt with absent fetal cardiac activity on bedside transabdominal U/S with fetus measuring *** weeks consistent with ***[early second-trimester loss (13w0d - 19w6d)/ fetal demise or stillbirth (20w0d+ OR weight 350 gm or greater]). Pt was counseled on timing and options for methods of delivery based on gestational age, maternal history of prior uterine scar, maternal preference, and risk factors (ie PROM and risk of impending chorio).

The benefits of medical management were outlined, including enhanced ability of autopsy to detect macroscopic fetal abnormalities vs D&E, ability to hold remains, safety based of gestational age, lack of need for anesthesia, safety in women with prior scar from cesarean. Pt was counseled on risks of medical management including moderate to heavy bleeding, cramping, infection, and need for surgical intervention if complete expulsion is not achieved.

The benefits of surgical management were also discussed including possible decrease in complications rate (4%) than with medical regiments (22%). Complications associated with surgical were described including retained products, failed induction, moderate to heavy bleeding, cramping, infection, and more rarely intrauterine adhesion formation. Essential assessments were discussed with the patient including fetopsy; assessment of placenta, cord, membranes; karyotype and possible microarray testing. Resources for support such as psychiatry referral and support groups were offered. All questions were answered.



CODING AND BILLING

- **ICD-10**
  - **O03.0**, Spontaneous abortion
  - **O02.1**, Missed abortion
  - **P95**, Stillbirth
  - **Z37.1**, Single stillbirth
- **CPT**
  - **59821**, Treatment of missed abortion, completed surgically; second trimester

EVIDENCE

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