Pregnancy following previous IUFD

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Early gestational fetal mortality appears to be related to

- **Anomalies**
- **Infections**
- **IUGR**
- **Underlying maternal medical conditions**

late gestational fetal mortality appears to be due to

- **Medical disorders**
- **Obstetrical disorders**

such as placental abruption and previa, cord prolapse, other labor and delivery complications, or unexplained

MATERNAL LABORATORY TESTS RECOMMENDED AFTER STILLBIRTH:

All Mothers of Stillborn Infants

- Complete blood count
- Kleihauer-Betke
- Human parvovirus-B19 (immunoglobulin G; immunoglobulin M)
- Syphilis
- Lupus anticoagulant
- Anticardiolipin antibody
- Thyroid-stimulating hormone

Selected Mothers of Stillborn Infants

Thrombophilia:

- Factor V Leiden
- Prothrombin gene mutation
- Antithrombin III
- Homocysteine (fasting)
- Protein-S and protein-C activity
- Parental karyotypes
- Indirect Coombs test
- Glucose screening (oral glucose tolerance test, hemoglobin A1c)
- Toxicology screen

AUTOPSY

- "why did this happen?" and "will it happen again?
- Answers to these questions may be **impossible** without information gained from an initial evaluation of **medical records, visual inspection of the newborn, and a pathologic examination.**
- **All women/couples should be offered the option of autopsy examination**

- Although death of a karyotypically abnormal embryo or fetus is most common in **the first trimester**, it can occur at **all stages** of pregnancy

- **Single gene defects and microdeletions** are examples of genetic causes of stillbirth that may be missed by a karyotype determined by conventional cytogenetic analysis.
- **microarray** analysis can help identify these cases.

- **Recurrence risk**

- Women who experience a stillbirth are almost **five times** more likely to experience a stillbirth in their next pregnancy than women who had a live birth
- **PLANNING FUTURE PREGNANCIES**
- **optimum interpregnancy interval after a stillbirth?**

- **at least 6 to 12 months**

- The **delivery mode** may also play a role in advising about the interpregnancy interval.
- Women who have a cesarean delivery are advised to wait longer than those who have had a vaginal delivery; some authors have suggested waiting 18 months until the next pregnancy.

PREVENTION OF RECURRENT STILLBIRTH

Preconception management

- optimizing medical status (eg, diabetes, thyroid disorders, hypertension)
- optimizing body mass index, if too low or high
- discussing cessation of illicit drug, tobacco, and alcohol use, when appropriate

Pregnancy management

- assess the prior risk
- the type and frequency of antepartum monitoring
- intervention for delivery.
- management options

- **Screen for diabetes ?**

Is recommended **early** in pregnancy

repeat screening at **24 to 28 weeks**

The odds of gestational diabetes is **fourfold** higher after an unexplained stillbirth

- Is there any specific Down syndrome screening?

They can also provide insight on the risk of adverse pregnancy outcomes, including stillbirth.

low (<5th percentile) pregnancy-associated plasma protein A (PAPP-A) at 10 weeks is associated with a significantly increased risk of stillbirth

If low PAPP-A and high MSAFP, the risk of adverse outcome is increased synergistically

Ultrasound examination

- For confirmation of **gestational age**, ideally in the first trimester
- For fetal **anatomic** survey at 18 to 22 weeks of gestation
- For assessment of **fetal growth and amniotic fluid volume at 24 and 30 weeks**

Serial assessment of fetal growth is also essential

Doppler ultrasound of the umbilical artery is performed if the fetus is growth restricted

- **low-dose aspirin?**

If there is an association between both preeclampsia and fetal growth restriction with stillbirth

- **low molecular weight heparin?**

will not reduced the chance of recurrent stillbirth or the chance of neonatal death or serious complications in the first month of life

- Antepartum fetal surveillance
- antepartum fetal testing **one to two weeks** prior to the gestational age of the previous stillbirth and **by 32 to 34** weeks of gestation
- there is no evidence that **intensive** monitoring in future uncomplicated pregnancies will make a significant difference in preventing stillbirth.
- patients' anxiety levels may be decreased with more frequent prenatal visits and frequent testing, such as nonstress tests and ultrasound examinations.

Preconceptional or Initial Prenatal Visit

Detailed medical and obstetrical history
Review evaluation of prior stillbirth
Determination of recurrence risk
Discuss recurrence of comorbid obstetric complications
Smoking cessation
Preconceptional weight loss in obese women
Genetic counseling if family genetic condition exists
Diabetes screen
Thrombophilia screen: antiphospholipid antibodies (only if history indicates)
Support and reassurance

First Trimester

Dating sonography
First-trimester screen: pregnancy-associated
Support and reassurance

Second Trimester

Fetal sonographic anatomical survey at 18–20 weeks

Maternal serum screening (quadruple) or single-marker alpha fetoprotein

uterine artery Doppler studies at 22–24 weeks' gestation

Support &reassurance

*Take home message

Third Trimester

Sonographic screening for fetal-growth restriction, starting at 28 weeks
Kick counts starting at 28 weeks
Antepartum fetal surveillance starting at 32 weeks or 1–2 weeks earlier than prior stillbirth
Support and reassurance

- **Delivery**
- Elective induction at 39 weeks
- Delivery before 39 weeks only with documented fetal lung maturity by amniocentesis