Management of Antepartum Fetal Death

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Definition

- Intrauterine fetal death (IUFD)
  - Fetal death at any time after 20 weeks of gestation and/or weight of > 500 grams.
Incidence

- Approximately 1% of pregnancies
- Accounting for almost one-half of cases of perinatal mortality.
Etiology

• Unknown in 50%
• Chromosomal abnormalities, genetic disorder
• Maternal condition
  – Chronic hypertension
  – GDM
  – Pre-eclampsia
  – Metabolic diseases
  – Viral or bacterial infection
  – Endocrine disorder
  – Cervical incontinence
  – Uterine abnormalities
Etiology

- Placenta & umbilical cord
  - Placenta abruption
  - PROM
- Incomplete implantation
- Auto-immunity
- Thrombophilic disorder
Diagnosis

• **Real time ultrasound** is the definite method for diagnosing intrauterine fetal death by demonstrating the absence of fetal cardiac activity and movements.

• When the fetus has been dead for more than 2 days
  – fetal scalp edema
  – overlap of cranial bones (Spalding's sign)
  – Air bubbles in heart and great arteries (Robert's sign)
Natural history

- The time from fetal death in utero until the onset of labor depends both on the cause of fetal death and on the length of gestation.
- Overall, 80% of women will go into labor within 2 weeks.
- Only 10% will be undelivered more than 3 weeks.
- Prolonged retention of the fetus in uterus may result in maternal clotting abnormalities.
Management

• Baseline clotting studies should be obtained in each case of IUFD.
  – CBC with platelet count
  – PT, PTT
  – Fibrinogen level
  – Fibrin split products

• If lab data suggest a coagulopathy, prompt delivery is indicated.
Management

• If clotting studies are normal, the management could be either expectant or delivery as determined by doctor-patient discussion.

• If the patient is treated expectantly, clotting studies should be repeated weekly.
Expectant management

• 80% of patients will go into labor within 2-3 weeks

• Disadvantages:
  – The possible development of hypofibrinogenemia
  – Emotional burden to woman and her family in having to continue carrying a dead fetus
Methods of delivery

• Operative
  – If the uterus is small than a 15 week gestation size, suction curettage or dilation and evacuation are reasonable choices
  – Previous C/S posed a risk of uterine rupture

• Intravenous oxytocin
  – Safe, effective and has the advantage of familiarity
  – Amniotomy should be performed as soon as possible
  – Uterine rupture is a risk of oxytocin administration
Diagnostic workup

- Woman with unexplained fetal losses should be evaluated for DM and collagen vascular disease
- Kleihauer-Betke stain for detection of possible fetal-maternal hemorrhage
- Once the child is delivered, tissue for chromosomes should be obtained
Diagnostic workup

- The placenta should be carefully examined and sent for pathologic examination. Placental culture for Listeria should be sent.
- An autopsy should be performed by an experienced pathologist with parental consent.
- An X-ray of delivered fetus should be obtained to evaluate the skeletal structure.
Summary

• Fetal death is an emotional issue for both the patient and the physician and may result on significant complications.

• The most serious complication is hypofibrinogenemia which may lead to life threatening coagulopathy.

• Ultrasound provides the most reliable method of confirming the diagnosis.
Maternal Morbidity and Mortality Associated With Intrauterine Fetal Demise: Five-year Experience in a Tertiary Referral Hospital

Method

- Over a 60-month interval, all cases of IUFD after 20 weeks’ gestation were reviewed for maternal trauma and maternal postpartum complications.
Results

- 498 singleton and 24 twin pregnancies with an IUFD were identified.
- A cervical or perineal laceration requiring repair complicated 9.4% of pregnancies.
- One uterine dehiscence and one uterine rupture occurred.
- Endometritis, the most common postpartum complication, occurred in 63 of 522 patients (12%) delivered abdominally. (premature rupture of membrane, preterm labor)
- One maternal death occurred.
- Total mean hospital stay was 4.9 +/- 5.7 days.
Conclusion

• Maternal morbidity and rarely mortality can follow IUFD.
• However, this morbidity is similar to that observed without IUFD.
Thank you for your attention
Algorithm for Management of Trauma During Pregnancy
Stabilization

- Maintain airway and oxygenation
- Deflect uterus to left
- Maintain circulatory volume
- Secure cervical spine if head or neck injury suspected
- Obstetrical consultation
Complete examination

- Control external hemorrhage
- identify/stabilize serious injuries
- Examine uterus
- Pelvic examination to identify ruptured membranes or vaginal bleeding
- Obtain initial blood work
Fetal evaluation

- < 24 weeks
  - Document FHTs
- > 24 weeks
  - Initiate monitoring
Presence of

- More than 4 uterine contraction in any one hour
- Rupture if amnionic membrane
- Vaginal bleeding
- Serious maternal injury
- Fetal tachycardia; late deceleration; non-reassuring tracing
Yes

- Hospitalize
- Continue monitor if > 24 weeks
- Delivery as indicated
No

- Other definite treatment (may be done concomitantly with monitoring)
- Suture lacerations
- Necessary X-ray
- Anti-D globulin if indicated
- Tetanus toxoid if indicated
- Discharge with follow-up and instructions