

Trauma in Pregnancy

Anesthetic Pearls: Anesthetic Implications of Pregnancy Dynamics in Trauma

General

- Signs of hypovolemia after > 35% blood volume loss.
- Hypovolemic shock results in fetal demise 80% of the time.
- Moderate to severe trauma results in up to 60% fetal loss from abruptio placentae.
- Fetal management is determined by optimal maternal support.
- Resuscitation with blood should be with Rh specific blood to avoid future interuterine hemolytic disease.
- Abruptio placentae causes maternal-fetal hemorrhage with blood admixture (causes maternal isoimmunisation if the mother is Rh⁻ and fetus is Rh⁺).

Blunt

- Amniotic fluid is a protective cushion to the fetus
- Expanding uterus most vulnerable in 3rd trimester
- The aorta, colon, pancreas are directly protected by the uterus

Penetration

- Uterine mass, amniotic fluid, and the fetus absorb much kinetic energy and protect the mother
- Uterus more at risk during 3rd trimester
- Mobile bowel protected by upward displacement

Fetal Consequences of Trauma

- Severe reduction of placental blood supply during maternal blood loss even when signs of maternal hypovolemia are absent.
- Placental abruption is the most common cause of fetal death.
- Penetrating trauma risks (same as adults).
- Uterine rupture in advanced pregnancy may lead to fetal and / or maternal death.

Maternal Consequences of Trauma

- Advanced pregnancy splints the diaphragm.
- Caution for supine hypotension from IVC compression in advanced pregnancy (place the patient on left lateral decubitus position if possible).
- Delayed gastric emptying in pregnancy and especially after trauma.
- Fractured pelvis is a particularly serious injury due to pelvic blood vessels are maximally engorged and bleed freely.
- Amniotic fluid embolism may cause DIC.
- DIC / ARDS may result from abruptio placentae.
- Parturients are often anemic and may not tolerate further dilution by crystalloids.
- Abortion, premature labor, and placental separation with antepartum hemorrhage may follow trauma.
- Caval compression by the uterus can lead to elevated venous pressure which can lead to further placental abruption.

