Management Of The Pregnant Patient Having Non-Obstetrical Surgery 2021

Goals:

- Avoidance of premature labor from surgical stimulation or medications
- Maintenance of uteroplacental perfusion and oxygenation
- Avoidance of teratogens
- Avoidance of maternal aspiration

Preoperatively, the anesthesiologist and the obstetrician should address the need for prophylactic tocolysis. Even if not given prophylactically, a tocolytic should be available if the need arises perioperatively. Remember that volatile anesthetics are tocolytic.

Corticosteroids should be considered for fetal benefit for those presenting at a viable fetal age in case of premature labor

The minimum requirements per the ASA/ACOG guidelines call for fetal heart rate monitoring and tocographic monitoring pre-op and post-op

Intra-operative cardiotocographic monitoring is useful as a gauge of uteroplacental blood flow during a surgical procedure because:

- It is not always possible to have effective left uterine displacement during a procedure
- Low maternal BP is common under anesthesia, and there is no autoregulation of uterine blood flow
- Changes in $PaCO_2$ effect uterine vascular tone

The primary goal of intra-operative cardiotocographic monitoring is not to identify indications for emergent c-section, but to alert the anesthesiologist of the need to:

- Improve maternal hemodynamics
- Improve maternal oxygenation
- Adjust ventilation
- Use tocolysis

The use of intra-operative monitoring is up to the discretion of the anesthesiologist, however it may not always be possible because of the location of the surgery

Remember that all anesthetics will cause decrease in fetal heart rate variability

If intra-operative monitoring is to be used, once it is instituted, there is no need for an OB nurse to remain in the OR throughout the procedure.

It is not necessary for the patient's OB to be in house, not only because of the in-house OB physician, but also because every effort will be made to avoid premature delivery

Laparoscopy not contraindicated

- Surgeon should use an open trocar technique
- Keep insufflation pressures low (< 15 mmHg)
- Pneumoperitoneum can aggravate the effects of aortocaval compression
- Consider transvaginal U/S for continuous FHR monitor

The type of anesthesia does not matter as long as the goals listed above are addressed. Except for muscle relaxants, almost all drugs cross the placenta, however **there is no anesthetic medication that is a known teratogen at normal clinical doses at any gestational age.** BZDs are not contraindicated, but some will avoid their use in the 1st trimester. Long exposure to N_2O should be avoided because of its effect on DNA synthesis

Specific meds to avoid:

- ACE inhibitors
- Amiodarone
- NSAIDs
- BZDs in early weeks of gestation
- Long exposure to N_2O

Maternal pulmonary considerations:

- The mother should be considered as having a full stomach once the 18th week mark is reached even if NPO
- High airway pressures decrease uterine blood flow
- Hypocapnia causes uterine vasoconstriction
- No matter how high maternal FiO_2, fetus is not at risk for hyperoxia

FDA 2016 warning: *the repeated or lengthy (more than three hours) use of general anesthetic and sedation drugs may adversely affect children's developing brains*

http://www.fda.gov/Drugs/DrugSafety/ucm532356.htm?source=govdelivery&utm_medium=email&utm_source=govdelivery