Pregnant Patient: Care in the PACU

Site Applicability

VGH PACU

Practice Level

PACU RN in collaboration with B.C. Women's Hospital (BCWH) High Risk Perinatal RNs

Policy Statements

1. PACU nursing staff are responsible for monitoring and documenting maternal well-being in accordance with PACU standards and maintaining maternal (and hence fetal) oxygenation and perfusion. PACU nursing staff will collaborate with BCWH RNs regarding fetal health surveillance and obstetrical care.
2. Pregnant patients with gestational age greater than 16 weeks admitted to PACU following surgery require fetal health surveillance (FHS) as per BCWH protocol under the direction of Maternal Fetal Medicine (MFM) physician.
3. The attending surgical team (non-trauma patient) or Trauma Team (trauma patient) as applicable is responsible for consulting the appropriate resources to arrange for FHS in PACU:
    a. **contact BCWH MFM physician on call via Switchboard at local 5-5000**
4. The PACU Patient Care Coordinator or Charge Nurse will notify the MFM physician on call for unscheduled non-trauma patients designated as E0, E1, or E2, at the request of the attending Surgeon or Resident.
    a. **contact BCWH MFM physician on call via Switchboard at local 5-5000**
5. FHS will be managed in PACU by BCWH RN as per BCWH protocol under the direction of the MFM physician.

Need to Know

Up to 2% of pregnancies are complicated by the need for non-obstetrical surgery. The most common causes for non-obstetrical emergency surgery during pregnancy are trauma and acute abdominal conditions such as appendicitis, intestinal obstruction & cholecystitis. Most pregnant patients requiring non-obstetric surgery will be cared for on a unit with obstetrical services. Only the minority of pregnant surgical patients will require the specialized services at VGH/UBC Hospital which does not have obstetrical services.

Surgery performed during pregnancy is associated with a small increase in the risk of premature labour & delivery. In addition, normal physiologic changes associated with pregnancy place the patient at higher risk for:

- **Hypoxaemia**
  - Increased O2 consumption and decreased functional residual capacity contribute to a rapid decrease in PaO2 if apnea occurs. In addition, a dilutional anaemia decreases overall O2-carrying capacity
- **Difficult intubation/re-intubation**
  - Swelling of oropharyngeal tissues and narrowing of the glottic opening are present from the 2nd trimester
- **Thromboembolism**
  - Secondary to increased clotting factors and fibrinogen levels, as well as engorgement of pelvic & lower extremity veins
- **Aspiration**
  - Due to delayed gastric emptying (especially in the 3rd trimester) and decreased tone at the gastroesophageal junction
- **Positional hypotension**
  - Occurs when the patient is supine as the uterus compresses the aorta and IVC

At this time, there is no clear association between standard peri-anaesthesia drugs given in appropriate concentrations and teratogenic effects in humans at any gestational age. However, most anesthetic agents as well as opioids cross the placental barrier and the fetus will be impacted. Inhalational anesthetics decrease uterine tone and inhibit labour although this effect will be waning by the time the patient arrives in PACU. NSAIDs should be avoided from 34 weeks gestation as there is an association with PDA.

Overall, foetal well being is primarily dependant on maternal oxygenation and uterine blood flow. Therefore, the principle goal of care during the post anaesthetic recovery period is ensuring optimum maternal oxygenation (as measured by oximetry) and blood pressure. In addition, postoperative relief of maternal pain and anxiety are important clinical goals.

Equipment and Supplies

1. Foetal Monitor
   - **VGH Emergency Department – Treatment Room #4 (contact ED Charge Nurse)**
   - **VGH BPTU – Storage Room 2717 (contact BPTU Charge Nurse)**
2. Neonatal Resuscitation Cart (Fetal Warmer)
   - **VGH Emergency Department – Treatment Room #4 (contact ED Charge Nurse)**
   - **VGH BPTU – Storage Room 2717 (contact BPTU Charge Nurse)**
3. Obstetrics Cart
   - **VGH Emergency Department – Trauma/Resuscitation Room (Contact ED Charge Nurse)**
4. Pediatric Broslow Resuscitation Cart
   - **VGH ICU – ICU South**

Practice Guideline

Assessment

In collaboration with BCWH RN, assess maternal vital signs, LOC and surgical parameters in accordance with PACU standards with the following additions/modifications

1. Uterine palpation for presence of uterine contractions Q 15 minutes
2. Monitor for signs of preterm labour including:
    - Regular, strong uterine contractions
        - Contractions may be painless & detected only by abdominal palpation. Alternately, patient may report menstrual-like cramping, onset of backache and/or sensation of pelvic pressure
    - Watery vaginal discharge (amniotic fluid) indicating premature membrane rupture Vaginal bleeding
    - Ensure FHS completed, and/or non-stress test assessed, documented & reviewed by appropriate attending service prior to patient discharge

Interventions

In collaboration with BCWH RN, implement appropriate post anaesthetic care in accordance with PACU standards with the following additions/modifications:

1. Position patient on left side (displaces uterus to left and alleviates vena caval compression). If the supine position is unavoidable due to surgical requirements, place a wedge or rolled sheet under the right iliac crest to elevate the right hip and tilt the pelvis to the left.

*****SUPINE POSITION CONTRAINDICATED IF GREATER THAN 24 WEEKS GESTATION*****

2. Implement measures to support uterine blood flow, i.e.
    - Bed rest in side-lying (preferable left side) position
    - IV fluid hydration
3. Implement measures to decrease risk of thromboembolism, e.g.
    - Liberal IV hydration
    - Leg exercises (as per Stir-Up Regime)
    - Calf compressors as ordered
    - Anticoagulant medications as ordered
4. Reassure the patient that decreased foetal activity is an expected and transient post anaesthetic effect that will resolve as drugs are metabolized.
5. In the event of preterm labour, issues with maternal oxygenation (i.e. SpO2 less than 95%) and/or maternal hypotension, STAT page Anaesthesiologist and:
    - **Non-Trauma Patient**

- MFM physician on call via **Switchboard at Local 5-5000**
- Attending Surgeon

- **Trauma Patient**
  - MFM physician on call via **Switchboard at Local 5-5000**
  - Trauma Attending & Trauma Fellow

6. In the event of impending birth **STAT** page above personnel as applicable and:
   - Initiate Code Pink
   - Notify Infant Transport Team

PATIENT / CLIENT / RESIDENT EDUCATION:

- As per Care of the Post Anaesthetic Patient in Phase I [D-00-07-30260]
- Decreased foetal movement is an expected and transient post anaesthetic effect that will resolve as drugs are metabolized.

Documentation

Document initial and ongoing assessments & interventions including VS, LOC, sensory/motor level, surgical parametres, medications given, complications/problems experienced and patient outcomes in accordance with PAR standards.

Related Documents

Care of the Post Anaesthetic Patient in Phase I [D-00-07-30260]

VCH CPD: Code Pink [PENDING]

References

- American College of Obstetricians and Gynecologists. (2011). Committee Opinion 474: Non-Obstetric Surgery during Pregnancy. Obstetrics & Gynecology. 117:420.
- Norwitz E, Park JS, Snegovskikh D. (2013). Management of the pregnant patient undergoing nonobstetric surgery. UpToDATE http//www.uptodate.com
- Reitman E, Flood P. (2011). Anaesthetic considerations for non-obstetric surgery during pregnancy. British Journal of Anaesthesia 107 (S1): i72-i78.

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