Anesthetic and Analgesic Considerations for Postpartum Surgery in Breastfeeding Patients

Key Elements to Consider

Breastfeeding:

- Is the patient pumping/breastfeeding?
- If yes, how often (every 2-4 h is typical)

Pregnancy or postpartum complications that should be considered:

- Gestational diabetes, gestational hypertension/ preeclampsia/HELLP, etc.
- Blood loss during delivery, current Hgb/Hct
- Complications e.g. PDPH, DVT, SSI, ongoing pain etc.
- Psychological/emotional/physical trauma of delivery
- Status of infant

Recommendations

Breastfeeding:

- Minimize NPO restrictions
  - Ideally, first case of the da
  - Carbohydrate-rich clear liquids up to 2 h pre-op
  - Consider additional fluid deficit due to bowel prep
  - Ensure accommodations for pre- and post-op pumping: Call F2 for supplies (650-723-9780)
  - Inpatient lactation consults (650-721-2721)

- Resumption of breastfeeding

DO NOT ADVISE PATIENTS TO "PUMP AND DUMP"

- Avoid meperidine, codeine, tramadol
- Ketamine should be used only if medically indicated
- Pain interferes with successful breastfeeding, patients should not avoid post-op analgesia
- Despite an excellent safety record, patients who are breastfeeding who require narcotic pain medicines should closely observe their baby for signs of sedation

Gastric emptying and aspiration precautions[8]:

- Compared to nonpregnant controls, there are no significant differences in gastric emptying times of non-laboring pregnant patients in any trimester and of patients from approximately 18 h postpartum onwards
- No longer require aspiration precautions >18 h postpartum

Sugammadex[9]:

- Lactation
  - Safe to resume normal breastfeeding routine
  - See Sugammadex guidelines on Ether / StaRR

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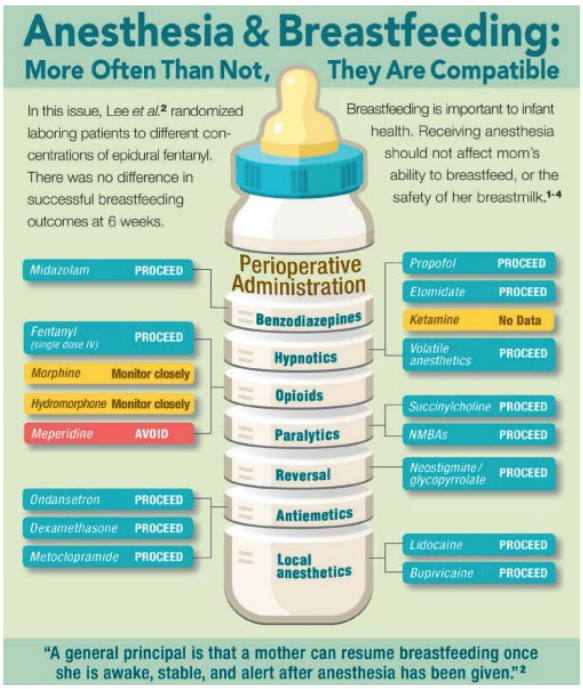

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If there are any questions or concerns, please feel free to reach out to the

OB Anesthesiology Attending (650-721-0866)

Please refer to the following pages for additional explanations.

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Breastfeeding considerations:

- The Academy of Breastfeeding Medicine recommend[5]:
    - Patients with healthy term or older infants can generally resume breastfeeding as soon as they are awake, stable, and alert
        - Resumption of normal mentation is a hallmark that medications have redistributed from the plasma compartment (and thus generally the milk compartment) and entered adipose and muscle tissue where they are slowly released
    - Infants at risk for apnea, hypotension, or hypotonia may benefit from a brief interruption of breastfeeding (6–12 hours) after maternal anesthesia
        - Patients can express and store milk in small amounts to be used when the infant is older, or it can be mixed with fresh milk containing no medications to dilute the milk with medications present
- Lactation requires approximately 330-400 extra calories/day and increased fluid intake to satisfy thirst (typically 1 liter more than the average non-lactating person)[4]
- Patients who are pumping should be encouraged to bring their supplies to the preoperative area, alternatively a hospital grade pump and supplies can be provided from Maternity (RN from F2 can arrange) to accommodate pre-op pumping
    - Expressed milk can be placed on ice while the patient is intra-op
- Similarly, accommodations should be made for the patient to breastfeed or express milk in PACU; breast engorgement should be avoided and milk expression should be timely to avoid an impact on supply

Drugs and Breastfeeding:

- Refer to the ASA Statement on Resuming Breastfeeding after Anesthesia[6]
    - "All anesthetic and analgesic drugs transfer to breastmilk; however, **only small amounts** are present and in **very low concentrations** considered clinically insignificant"
- **DO <u>NOT</u> ADVISE PATIENTS TO "PUMP AND DUMP"**
- Narcotics and/or their metabolites may transfer in slightly higher levels into breastmilk, therefore multimodal analgesia and/or regional techniques should be utilized where appropriate to reduce opiate requirements
    - **AVOID meperidine**[7] (the American Academy of Pediatrics recommends against using this in breastfeeding patients due to variable half-lives and the active metabolite normeperidine)
    - **AVOID codeine and tramadol** (FDA warning against use in patients with a CYP2D6 mutation)
    - **Ketamine should only be used if medically indicated** (there is insufficient evidence on long-term safety to the infant)

Sugammadex:

- LactMed® considers administration of sugammadex safe during breastfeeding
- See sugammadex guidelines on Ether/StaRR
- The Society for Obstetric Anesthesia and Perinatology (SOAP) Consensus Statement on Sugammadex during pregnancy and lactation recommend[9]:
    - There is limited data evaluating the transfer of sugammadex in breastmilk
    - Sugammadex in the lactating patient population is considered acceptable
    - Sugammadex is a large polar molecule, the concentration in breastmilk is likely very low
    - Sugammadex has very low oral bioavailability and oral absorption by the breastfeeding infant is likely very limited

Counseling advice for patients:

- Patients should be reassured that it is safe to resume breastfeeding as soon as possible after surgery because anesthetic drugs appear at such low levels in breastmilk
- Pain interferes with successful breastfeeding, patients should not avoid post-op analgesia
- Despite an excellent safety record, patients who are breastfeeding who require narcotic pain medicines should closely observe their baby for signs of sedation: difficult to wake and/or slowed breathing

Anesthetic considerations:

- Gastric emptying and **aspiration precautions**[8]:
    - No longer require aspiration precautions after 18 hours postpartum
    - Compared to nonpregnant controls, there are no significant differences in gastric emptying times of non-laboring pregnant patients in any trimester and of patients from approximately 18 hours postpartum onwards
- Consider **regional anesthetic** technique to minimize general anesthesia and associated medication impact on breastfeeding and recovery
    - Anesthetic and analgesic drugs with short half-life and non-active metabolites are preferable
- Minimize the utilization and prescribing of opiates in lactating patients

References:

(1) Romano M, Cacciatore A, Giordano R, La Rosa B (May 2010). "Postpartum period: three distinct but continuous phases". Journal of Prenatal Medicine. 8 (5): 15–2. doi:10.1002/anie.201108814. PMC 3279173. PMID 22438056.

(2) Berens, P. “Overview of the postpartum period: Disorders and complications.” UpToDate. Literature review current through: Aug 2022. | This topic last updated: Sep 06, 2022. Accessed: 9/12/2022.

(3) Berens, P. “Overview of the postpartum period: Normal physiology and routine maternal care.” UpToDate. Literature review current through: Aug 2022. | This topic last updated: May 17, 2022. Accessed: 9/12/2022

(4) CDC Breastfeeding and Special Circumstances: Maternal Diet. Page last reviewed: May 17, 2022. Accessed: 9/12/2022

(5) Reece-Stremtan S, Campos M, Kokajko L. ABM Clinical Protocol #15: Analgesia and Anesthesia for the Breastfeeding Mother, Revised 2017. Breastfeeding Medicine. Volume 12, Number 9, 2017. Mary Ann Liebert, Inc. DOI: 10.1089/bfm.2017.29054.srt

(6) ASA Statement on Resuming Breastfeeding after Anesthesia. Committee of Origin: Obstetric Anesthesia. (Approved by the ASA House of Delegates on October 23, 2019)

(7) Martin E, Vickers B, Landau R, Reece-Stremtan S. ABM Clinical Protocol #28, Peripartum Analgesia and Anesthesia for the Breastfeeding Mother. Breastfeeding Medicine. Volume 13, Number 3, 2018. Mary Ann Liebert, Inc. DOI: 10.1089/bfm.2018.29087.ejm

(8) Whitehead EM, Smith M, O’Sullivan G. An evaluation of gastric emptying times in pregnancy and the puerperium. Anaesthesia, 1993, Volume 48, pages 53-57.

(9) Society for Obstetric Anesthesia and Perinatology Statement on Sugammadex during pregnancy and lactation. Ad Hoc task force: Willett, Butwick, Togioka, Bensadigh, Hofer, Zakowski. April 22, 2019.