PRIMING THE PUMP?: ANTENATAL MILK EXPRESSION
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OBJECTIVES
• DEFINE ANTENATAL MILK EXPRESSION (AME)
• LIST FACTORS THAT SHOULD INFORM CLINICAL DECISION MAKING AROUND AME
• RECOUNT PRACTICAL CONSIDERATIONS FOR AME-RELATED CARE

CASE STUDY: SAMANTHA
• G1 P0, GDM, ON INSULIN
• 37 1/7 WEEKS TODAY
• HEARD ON FB GROUP ABOUT AME
• ASKED "IS AME SOMETHING I SHOULD DO?"
WHAT IS ANTENATAL MILK EXPRESSION?
- REMOVAL OF MILK PRIOR TO DELIVERY
- TYPICALLY VIA HAND EXPRESSION
- MILK = COLOSTREUM (LACTOGENESIS I)
- STORED FOR USE POST DELIVERY

WHAT ANTENATAL MILK EXPRESSION ISN'T
- NOT A WAY TO GET TO LACTOGENESIS II PRIOR TO DELIVERY
- NOT A SUREFIRE PATH TO INCREASE MILK-MAKING ABILITY
- NOT A BIOLOGICAL (OR SOCIAL) IMPERATIVE

WHOSE IDEA WAS THIS, ANYWAY?
- EARLIEST REFERENCE IN LITERATURE 1946
- FOCUSED ON DECREASING 'BREASTFEEDING FAILURES'
- PART OF BREAST 'PREPARATION' FOR FEEDING AFTER DELIVERY
- SOME DEGREE OF SUCCESS REPORTED
- INCREASE IN WORLDWIDE BF RATES
- BABY FRIENDLY HOSPITAL INITIATIVE EMPHASIZES EXCLUSIVE BF, HAND EXPRESSION
- THOUGHT—DECREASE IN-HOUSE SUPPLEMENTATION RATE, INCREASE SUPPLY, ESPECIALLY FOR HIGH RISK POPULATIONS
RISK FACTORS FOR DELAYED ONSET OF LACTOGENESIS

- Obesity
- Decreased response to suckling (<prolactin)
- Excessive pregnancy weight gain
- Gestational diabetes
- Prolactin resistance, decreased lactose synthesis
- Quite a bit delayed—DOL17, 18
- Premature delivery
- Cesarean delivery
- Primiparity

DIABETES AND ANTENATAL MILK EXPRESSION (DAME) STUDY—AUSTRALIA, 2011-2015

- RCT (unblinded)—first RCT on AME
- Pregnant persons with T2DM, GDM
- Singleton pregnancies at 34-37 weeks
- Group 1: Expressing 2x/day after 36 weeks
- Group 2: Standard care

Outcomes:
- Proportion of infants admitted to NICU, delivery prior to 37 weeks did not differ between both groups
- Conclusion: no harm in advising women with GDM/T2DM, low risk PG to express at 36 weeks

CONCEPTUAL MAP OF REPORTED MATERNAL AND NEWBORN OUTCOMES IN INCLUDED STUDIES

SCOPING REVIEW

CONCLUSIONS
- There is a rising interest in safety, efficacy, and acceptability of antenatal breast milk expression
- Breastfeeding outcomes were high yield
- There is lack of high-quality evidence on the effects of AME on maternal and newborn outcomes
EXCLUSION CRITERIA: DAME STUDY

- Antepartum Hemorrhage, Placenta Previa
- Unknown or classical Caesarean Section Scar
- >1 Caesarean lower segment section scar
- Maternal mental health issue
- Serious other obstetric/medical issue
- Fetal compromise
  - Macrosomia
  - Psychodynamism
  - Any abnormal, IUGR, ET
  - Known fetal anomalies

WOMEN WITH DIABETES & AME (NORWAY)

AME–NULLIPAROUS PREGNANT PEOPLE

Outcomes
- No benefit to bf outcomes
- Improved bf self efficacy, confidence

Limitations
- Very high-risk population
- Not powered adequately
- Lots of cross over
- No real benefit for delayed lactogenesis II

INTEGRATIVE REVIEW OF ANTENATAL MILK EXPRESSION AND MOTHER–INFANT OUTCOMES DURING THE FIRST 2 WEEKS AFTER BIRTH
EVIDENCE BASE FOR AME?

- NOT SETTLED SCIENCE
- PREGNANT PEOPLE = VULNERABLE POPULATION
- RISKS MAY WELL BE >> BENEFIT
- NO FORMAL RECOMMENDATIONS FOR AME

BUT, WHAT TO DO WHEN AME IS ALREADY A PART OF THE CONVERSATION?

- REDUCE RISK
- COUNSEL APPROPRIATELY
- SHARE IN DECISION-MAKING
- PROVIDE (IF DESIRED) PRACTICAL ADVICE
- DOCUMENT, DOCUMENT, DOCUMENT

RISK REDUCTION

- UTERINE SCAR
- PREV HEMORRHAGE OR PREVIA
- FETAL COMPROMISE
- MULTIPLES
- PREECLAMPSIA OR GESTATIONAL HTN
- ABNORMAL BPP, US, OR OTHER TESTING

RISK REDUCTION—SELECT FOR OPTIMAL BENEFIT

- SOME ANECDOTAL EVIDENCE FOR OVERSUPPLY
  - NOT A BENIGN CONDITION
- IDEALLY, SHOULD HAVE RISK FACTOR FOR DELAYED LACTOGENESIS
  - OBESITY
  - INSULIN RESISTANCE, GDM
  - PRIMIPARITY, AGED
COUNSELING: WHAT'S NORMAL
WHAT'S NOT

RED FLAGS AFTER/DURING AME:
• CONTRACTIONS
• ABDOMINAL OR PELVIC PAIN
• BLEEDING
• BACK PAIN

COMMON AFTER/DURING AME:
• BRAXTON-HICKS
• INCREASED FETAL MOVEMENT

SUPPLIES
• SYRINGES WITH CAPS
• LABELS

PREGNATIAL CARE & AME? AN OB/GYN'S EXPERIENCE

• TIMING
• PRACTICAL CONSIDERATION
• EXPECTATIONS
• SHARED DECISION-MAKING

HAND EXPRESSION
• CAN TEACH HANDS ON/HANDS OFF IN OFFICE
• HANDOUTS, VIDEOS CAN SIMPLIFY PROCESS IN BUSY OFFICES
CASE STUDY: SAMANTHA

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COMMON PROBLEMS, BARRIERS

- No one knows what patients are talking about
- Providers are uncertain re: benefit, safety
- Hospitals have no workflows or care plans
- Many units don’t have freezers, or refrigerators that can store colostrum
- Frustrating for families who have gone through so much effort

BEST PLAN TO BREAK BARRIERS (OR WHAT TO DO IF THERE’S NO POLICY)

- Know any rules or possible issues where your patients/clients deliver
- Make sure OB, midwifery, prenatal care provider involved
- Store labeled milk frozen in capped oral syringes
- Ferry over the milk once the baby is born so it doesn’t thaw
- Keep on ice in a cooler in the room
- Offer after or along with breastfeeding
- Advise on what/how much milk fed so S/he can chart it
- Hand express after/between breastfeeding—and use that milk too

ELEMENTS OF A POLICY

- Recognize risk reduction and shared decision making
- Part of a larger policy on what parents ‘can’ feed their own infants
- Isn’t solved by just offering access to donor human milk
- Subject to other policies on milk handling
- Access to a freezer as it thaws very quickly
- Labeling
CONCLUSION

• AME IS OUT THERE—PROVIDERS NEED GUIDANCE FOR NAVIGATING FAMILIES’ REQUESTS
• NOT SETTLED SCIENCE IF BENEFICIAL AT ALL FOR BF OUTCOMES, OR FOR WHOM
• RISK REDUCTION & SHARED DECISION-MAKING KEY
• FAMILY-CENTERED APPROACHES TO AME IN THE HOSPITAL CAN PROVIDE FOUNDATION FOR POLICY, ENHANCE SATISFACTION WHILE ENSURING SAFETY

THANKS!