Objectives

- Describe the importance of using colostrum for oral care in the NICU
- Discuss different methods to obtain colostrum for Oral Immune Therapy
- Describe the role of the Referral Hospital and the CHEO Neonatal Transport Team in helping to obtain and initiate Oral Immune Therapy

Infants in the NICU

- Critically ill neonates are at high risk for nosocomial infections because of their immature immune system
- Risk factors include
  - Prematurity
  - Congenital malformations
  - Low birth weight
  - Prolonged hospital stay
  - Frequent invasive procedure

Womb Environment vs. NICU

Benefits of Breast Milk

- Breast milk has been associated with a lower risk of sepsis and necrotizing enterocolitis in preterm infants
- Immunologic properties of breast milk:
  - Immunoglobulins (IgA)
  - Specific macrophages and lymphocytes
  - Secretory molecules with antibacterial properties
  - All may contribute to this protective effect
- Further research has shown that these immune agents can interact directly with oral mucous membranes and be absorbed

Many infants in the NICU are NPO and cannot receive the benefits of enteral feeds of their own mother’s milk
Position Statement and Recommendations from NANN

“As soon as the infant is born and the mother initiates pumping, oral care with human milk can commence”

“Oral care mimics what would occur with a healthy term infant feeding by breast”

Benefits of OIT for the Infant

• Human milk is a powerful antimicrobial agent and by coating the infant’s mouth with milk a front-line defense is provided
• Human milk is a rich source of cytokines and these cytokines may be absorbed through the infants oral mucosa, thus positively impacting the infant’s immune system
• Human milk has a sweet flavoring, therefore oral care with human milk provides a positive oral experience

Benefits of OIT for the mother

• Research has demonstrated that maternal and family participation in human milk oral care was a strong motivator for mothers to keep pumping to build their milk supply for their infant
• Provides a way for mothers to be involved with their infant, despite being unable to feed (i.e. by providing the milk and/or by assisting with the care.)

Other Benefits

• Simple and inexpensive method of oral care
• Can potentially decrease morbidity rates in the NICU

Studies have shown OIT to be safe, feasible, and well-tolerated by even the smallest, critically ill infants

OIT Policy was introduced in the CHEO NICU in May 2015
Implementing OIT in the NICU

• This initiative was driven by recommendations from the Canadian EPIQ-II (Evidence-based Practice for Improving Quality) network as a means for decreasing the incidence of NEC and nosocomial infection in medically fragile newborns
• The overall purpose was to formalize the delivery of OIT to critically ill newborns

Policy on OIT

Information letter for parents

Staff education
  – Emails
  – Newsletters
  – Reminders
• A physician’s order is required to initiate OIT

Administration of Oral Immune Therapy

• Oropharyngeal administration of colostrum by the nurse or parent
• Does not involve the infant’s swallowing of milk
• Fresh, never frozen colostrum
• No additives/fortifier is added to milk intended for OIT
• Donor milk is not used for OIT

Who can benefit from OIT?

• Every infant (preterm or term) who is not feeding by mouth will receive OIT unless breast milk is contraindicated
• NPO status is not a contraindication

Procedure

• 1 drop of colostrum (0.05mL) delivered from a 1mL syringe between the cheek and gum (or as a drop on a pacifier)
• Administered every 2-4 hours
• OIT will continue until the infant is able to feed by mouth (breast or bottle) at least twice a day

Contraindications for OIT

• An infant diagnosed with galactosemia, a rare genetic metabolic disorder
• An infant whose mother:
  – Is infected with HIV
  – Is taking antiretroviral medications
  – Has untreated, active tuberculosis
  – Is infected with human T-cell lymphotropic virus type I or type II
  – Is using or dependent on an illicit drug which is a contraindication for breastfeeding
  – Is taking prescribed cancer chemotherapy agents
  – Is receiving radioactive materials
Evaluation
Winter 2015

Challenges
• All patients in the CHEO NICU are outborn/ large catchment area
• OIT not getting ordered/ forgotten
• Confusion with policy/ eligible infants
• Lack of consistency in the administration
• OIT often started much later/ no colostrum or breast milk available

How can we overcome these challenges?

Challenges
• All patients in the CHEO NICU are outborn/ large catchment area
• OIT not getting ordered/ forgotten
• Confusion with policy/ eligible infants
• Lack of consistency in the administration
• OIT often started much later/ no colostrum or breast milk available

Challenges
✓ OIT not getting ordered/ forgotten
✓ Confusion with policy/ eligible infants
✓ Lack of consistency in the administration
  — Reminders during every morning round
  — Coming soon:
    • Pre printed orders for OIT
    • Electronic documentation for OIT
✓ OIT often started much later/ no colostrum or breast milk available
  — Get our NNTT involved?
Opportunities

• Create OIT Kits for parents
• Get the Neonatal Transport Team involved
• Start OIT as early as possible (during transport)
• Get the community hospitals involved and engaged

Oral Immune Therapy Kits

“Baby’s First Gift”

• Sterile colostrum containers (2)
• Breast milk labels (2)
• 1mL sterile syringe
• Instruction card on how to hand express colostrum (French & English)

Oral Immune Therapy Kits

Starting OIT on Transport

• Transport Team will bring OIT kit to the referral centre
• Transport Team will give OIT kit to the nurses and parents at the referral centre
• Nurses from the referral centre can assist the mother to hand express her milk
• OIT will be started by the Transport Team as soon as colostrum is made available
• Colostrum will be brought back to CHEO with the Transport Team (if available) to continue OIT

Hand Expression of Colostrum

• To help breast milk flow – massage breasts for a few minutes
• Fingers on opposite sides of areola
• Press back toward chest
• Compress fingers toward each other, drawing slightly toward nipple
• Release pressure, relax hand
• Repeat several times
• Collect drops of colostrum in sterile plastic container

Next steps...

• Start OIT on all infants (preterm and term) who are not feeding orally (if breastmilk is not contraindicated)
• Continue partnership with community hospitals
• Offer ongoing educational support to mothers
• Receive feedback from our partners/community hospitals
Every baby and mother deserves the best possible start even if they have special circumstances

Video on Hand Expression

http://newborns.stanford.edu/Breastfeeding/HandExpression.html

Contact Information

Cynthia Joly, Nurse Educator, CHEO-NICU

cjoly@cheo.on.ca

613-737-7600 x2688

References


