Implementation of Skimmed Human Milk for Infants with Chylothorax

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The development of chylothorax occurs in approximately 4-6% of post-operative patients with congenital heart disease.

At Michigan Medicine, infants that develop post-operative chylothorax follow a Clinical Practice Guideline that requires a six week course of a high MCT/low LCT enteral feeding regimen. Previously, this has required the exclusive use of high MCT/low LCT commercial formulas, typically Enfaport. However, many of these infants had maternal human milk available in the Patient Food and Nutrition Services (PFANS) Milk Room. Negative aspects of previous state included:
- Exclusive use of commercial formula when maternal human milk is available
- High cost of specialized formula
- Poor tolerance of formula feeding regimens
- Family desire to provide skimmed human milk demonstrated a need for this service

PROBLEM

OUTCOMES

- Participation data was collected from May-December 2016 which included 10 patients
- 100% of patients receiving enteral nutrition therapy for chylothorax who had maternal milk available, opted to incorporate human milk into their nutrition regimen
- 15% reduction in Enfaport use compared to baseline
  - Baseline: 9.4 cases/month
  - January-November 2016: 8 cases/month
  - At $57.12 per case, this is an average annual savings of $959.62 in Enfaport expenses
- 0% incidence of chylothorax recurrence

SOLUTION: Policy Development

Data Collection: Formula Use & Availability of Maternal Milk

Availability of Maternal Human Milk for Infants Receiving Enfaport (15 total) from August through December 2015

- Maternal Human Milk Available (9)
- No Human Milk Available (6)

OUTCOMES

SOLUTION: Implementation

Parent Survey Results

Mothers reported positive feedback and high satisfaction regarding:
- Overall satisfaction of the Milk Room service
- Maintaining motivation to continue expressing breast milk during chylothorax treatment
- Overall process to transition home
- Following the recipe to fortify skimmed human milk at home.

NEXT STEPS & FUTURE GOALS

1. Investigate the growth outcomes for patients on skimmed human milk
2. Improve the process for obtaining skimmed maternal milk after discharge
3. Optimize the Milk Room process for communicating the optimal amount of milk to skim for each patient