Reviewer's report

Title: Growth in VLBW Infants Fed Predominantly Fortified Maternal and Donor Human Milk Diets: A Prospective Cohort Study

Version: 1 Date: 10 May 2012

Reviewer: Deborah Tuttle

Reviewer's report:

Minor essential revisions:

1. Study described as prospective cohort study. Later in the article, description of two distinct time periods pre and post introduction of donor milk availability described. This suggests that babies who received the smaller percentages of human milk care may not have been cared for concurrently with babies who received higher percentages of human milk and raises the question about the type of study.

2. Study goals defined as comparison of in hospital growth in patients being fortified donor milk, v. fortified maternal milk, v. formula. However, the main data analysis was change in wt z score stratified by percentage of human milk received, . There was then a sub group analysis in the >75% human milk intake group based on type of human milk received. The goals and primary outcome measures need to be aligned.

3. The target level for protein intake were achieved by use of powdered HMF or formula concentrate, so that the level of fortification of other nutrients was also increased, and the milk more caloric, in addition to having more protein. Given this, the conclusion that the lower growth failure rate is likely due to higher protein intake is not valid as the calorie content of the milk also higher.

4. There is no mention of time to full feedings in each group, just percentage of enteral feeds that were human milk. If it took longer to achieve full feedings and greater time was spent on HA, then would see slower growth velocity. It might also be helpful to see ventilator days as surrogate for level of illness and need for higher calorie intakes

5. There is no standard definition for adequate growth. Poor growth, inferior growth, slow growth, good growth used descriptively without consistent terminology throughout the publication and at times conflict with the reported outcome of changes in z scores. "...predominately human milk diets in our population resulted in significantly slower growth than diets containing , 75% human milk, but earlier discussion states that " our population of VLBW infants fed predominately human milk grew well...". " The study infants grew well overall....( p 10) compared to (page 11) "a predominately donor milk diet was associated with higher rates of growth failure", as examples but there are more in the paper.

Discretionary:
1. The writing switched back and forth between VLBW and ELBW and it is confusing. The study population is referred to as VLBW but was limited to pts < 1250 grams- VLBW would imply pts up to 1500 g.

2. page 20, Table 3. There appears to be a mistake in the first column- human milk fortification, highest level used: should this read protein fortification, highest level used?

3. page 2, second to last sentence missing of between risk and poor.

4. Consider eliminating the discussion about targeted versus individualized fortification as the issue not part of the study design and seems tangential to the article.

5. Consider commenting on why in the sub group analysis, babies in the mixture group had better scores than in the maternal milk group.

6. Consider commenting on any type of processing or storage of mothers own milk used- is it used fresh v. previously frozen, are any measure taken to prevent CMV transmission that would alter the nutritional composition?

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests