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Impact of Human Milk in an Urban NICU population

Background: Studies have demonstrated the benefits of human milk in preterm infants including decreased rates of infection, necrotizing enterocolitis (NEC), length of hospital stay (LOS) and mortality. There are several well-established indications for the use of banked donor breast milk (DBM) when mother's milk is not available. There is little information regarding the use of DBM in a population with traditionally low exclusive breast-feeding rates (<20%).
Objective: To determine whether use of DBM in very low birth weight (VLBW, < 1500g) preterm infants affected the rates of NEC, culture positive sepsis (CPS), growth, duration of parenteral nutrition (PN) use, length of hospital stay (LOS) and overall mortality.
Methods: We conducted a retrospective cohort study comparing two epochs of VLBW neonates before and after the introduction of DBM in our neonatal intensive care unit (NICU). The rates of NEC, CPS, duration of PN use, number of days to return to birth weight, LOS, and mortality were compared for equal numbers of infants for 2 years prior to and after the transition to donor milk. For infants who developed NEC, we compared the onset, severity based on the modified Bell staging criteria, management, and prognosis between the two epochs.
Results: Demographic and clinical characteristics were similar in both groups. After the introduction of DBM there was a significant reduction in the rate of CPS (4% vs 20%, p=.014) and a trend toward lower mortality in the donor milk era (6% vs 18%, p=.065). In the donor milk era, there was less severe NEC (8% vs 4%), earlier return to birthweight (9.5d vs 10.9d), and shorter LOS (61d v 66d) although these results were not significant.
Conclusion: In this retrospective study, a practice change to the use of DBM in a population with low exclusive breastfeeding rates reduced the incidence of culture positive sepsis and may lead to lower mortality and morbidity. Further study in this population is warranted.