

CASE STUDY: Nutrition Intervention for Premature Infant

Part A: Darling is a 22 days old female former 31 1/7 weeker that is admitted for prematurity

Anthropometrics:

Weight History:

- Birth weight: 1560 g
- DOL 11: 1562 g
- DOL 14: 1637 g
- DOL 22: 1797 g

Nutrition History:

- Started IVF on DOL0, TPN and EN (human milk) started on DOL1.
- On DOL5, TPN discontinued with EN at 100 ml/kg and feeds fortified to 24 cal/oz with liquid HMF.
- Goal feeds reached on DOL 7 at 150 ml/kg.
- Current feeding order is 31 ml q 3 hours of 24 cal/oz expressed human milk + liquid HMF on DOL 22.

Questions:

1. What is Darling's corrected age?
34w2d
2. What nutrition changes do you recommend and why?
Adjust feeds to 34 ml q 3 hours to maintain total fluid goal of 150 ml/kg
3. What supplements do you recommend?
Add 1 ml MVI, 2 mg/kg/day ferrous sulfate and 0.75 mcg/kg/day zinc sulfate

Part B: With the nutrition interventions implemented, Darling is now 1893 g on DOL 26 and team has been weight adjusting feeds – currently at 35 ml q 3 hours of 24 cal/oz HM + liquid HMF. She is receiving 2 L NC and has been unable to be weaned off her oxygen. On most recent BMP, her sodium was 135.

1. Determine current weight gain velocity and nutrient intake?
+13 g/kg/day x 4 days
148 ml/kg, 118 cal/kg and 3.5 g/kg protein
2. What nutrition interventions do you now recommend and what do your recommendations provide?
Option 1: Recommend increasing to total fluids 160 ml/kg or 38 ml q 3 hours to provide 128 kcal/kg and 3.8 g/kg protein.
Option 2: Continue 150 ml/kg total fluids and increase fortification to 27 cal/oz HM + Liquid HMF. This provides 135 kcal/kg and 4.1 g/kg protein.

*Recommend checking a urine sodium as Na level is on low end of normal.

Part C: Team drew a urine Na and level resulted at 18.

1. What intervention should you recommend?
Add 2 mEq/kg NaCl.

Part D: Darling is now 2.247 kg on DOL40 (gestational age 31w1d) and is starting to take PO. She remains on HM + Liquid HMF. Her length initially improved, but appears to be starting to plateau.

1. What is her CGA?
37 weeks
2. What changes do you recommend to the team?
Change fortification to 27 kcal/oz HM + Enfamil NeuroPro Enfacare. Consider adding beneprotein to increase protein intake to 3.5 g/kg.
3. What needs to be completed prior to discharge?
Family will need a WIC form for specialty formula. AVS will need to be completed with the formula recipe (both fortified HM and Enfamil NeuroPro Enfacare only) and family should be educated.

Part E: Darling is now corrected to 6 months old.

1. How do you instruct them to start foods?
2. Parents are now asking about the pros and cons of Baby Led Weaning. How do you respond?