

Case study on the use of a human milk fortifier in preterm infants during hospitalisation and in the community

Neonatal Dietitian

BACKGROUND

B was born extremely premature at 28+1 weeks gestational age with twin-to-twin transfusion syndrome. B was diagnosed with symptomatic patent ductus arteriosus (PDA) with significant shunting and chronic lung disease (respiratory insufficiency) requiring oxygen. B was born at very low birth weight (VLBW) at 1kg (25th weight centile). B dropped to the 9th centile at 31 weeks gestational age and to the 2nd centile at 32 weeks, tracking on this centile for the next 6 weeks.

B commenced parenteral nutrition (PN) on Day 1 and expressed breast milk (EBM) fed via nasogastric tube (NGT) on Day 3 and 4. B was nil by mouth on Day 5 due to necrotising enterocolitis (NEC). EBM was re-established on Day 21 via NGT reaching 150ml/kg and PN was stopped. B started on 14g/day current formulation of nutriprem Human Milk Fortifier (HMF) on Day 21 which increased to 25g/day on Day 23, for 25 days. The volume of EBM was increased to 180ml/kg/day and on

Day 46, 25% feeds of nutriprem 2 were started via NGT due to poor EBM supply and growth (45ml/kg/day, 13ml feed x 8/day).

HOSPITAL

On Day 74 in hospital (38+4 weeks) the feeding regimen and fortification decreased reflecting B's needs. B received 6g/day of the formulation of HMF in EBM (135ml/kg/day, 266ml/day in total) via NGT (2g in 50ml). When 50% breast feeding was established, an updated nutriprem HMF was given as 5ml shots, with the mother advised to mix 6g of the updated nutriprem HMF with 30ml of EBM alongside 25% nutriprem 2 (45ml/kg/day, 85ml in total). Mean compliance was described as excellent with B receiving 100% of the recommended amount. When starting the updated nutriprem HMF B was on the 2nd weight centile (2.43kg) which moved up to the 9th centile before discharge (3.09kg).→

Table 1. Dietetic History

Age	Weight	Length	Phase
28w + 1d	1 kg (25th centile)	N/A	Birth: Born VLBW, with twin-to-twin transfusion syndrome, symptomatic patent ductus arteriosus (PDA) and chronic lung disease (respiratory insufficiency) requiring oxygen
38w + 4d	2.43kg (2nd centile)	43.75cm (9th Centile)	Initiated on Updated nutriprem HMF: Started upgraded nutriprem HMF (6g/day) in EBM (135ml/kg/day, 266ml/day in total) via NGT (2g in 50ml)
41w + 3d	3.09kg (9th centile)	46.5 cm (2nd Centile)	Hospital Discharge: B was discharged home, breastfeeding with 2 top up bottles of fortified EBM feeds (45ml per bottle, 6g/d nutriprem HMF).
42w + 3d	3.36kg (25th Centile)	48cm (2nd Centile)	Community follow up (1 Week): B's growth was steady and has settled to a good feeding pattern.
47w + 1d	4.46kg (25th centile)	54.8cm (25th Centile)	HMF Discontinuation: B is growing well. HMF discontinued.

COMMUNITY

B was discharged home on a feeding regime of breastfeeding with 2 top up bottles of fortified EBM feeds (45ml per bottle, 6g/d nutripem HMF). The updated nutripem HMF was received for 43 days in the community. Mum reported that the updated nutripem HMF was easy to mix, and was very happy with B's growth and the reduced need for additional formula feed. Following discharge, weight improved (3.36kg) and remained stable on the 25th centile (4.46kg). Overall both the dietitian and the parents reported that tolerance was good on the updated nutripem HMF. It was reported that B experienced some mild constipation, abdominal discomfort, and some moderate bloating and flatulence whilst in hospital. Once at home the parents reported some mild diarrhoea,

abdominal discomfort, bloating and flatulence, although the parents were not concerned and believed the symptoms were unrelated to the updated nutripem HMF. Overall, the dietitian was very satisfied with the infant's tolerance and no adverse effects were reported.

DISCUSSION

This case study demonstrates the use of the updated nutripem HMF in this preterm infant which supported good growth in hospital and upon discharge and helped reduce additional formula use. B was assessed at 1 week and 4 weeks after hospital discharge, and it was felt B was feeding and growing well. The dietitian was satisfied with B's tolerance and compliance with the updated nutripem HMF and the parents were pleased with her growth. 🙌

IMPORTANT NOTICE:

Breastfeeding is best. nutripem human milk fortifier is a food for special medical purposes for the dietary management of preterm and low birthweight infants. It should only be used under medical supervision, after full consideration of the feeding options available including breastfeeding. It is not suitable for use as the sole source of nutrition. Refer to the label for details.

