PERI-OPERATIVE NUTRITION FOR EXTREMELY PRETERM INFANTS UNDERGOING SURGICAL TREATMENT FOR PDA

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Background and aim: In Sweden, 24% of extremely preterm infants are surgically treated for patent ductus arteriosus (PDA). The aim of this study was to evaluate the peri-operative nutrition.

Methods: Population-based cohort ^{1, 2} of 118 extremely preterm infants (gestational age < 27 weeks, birth weight 719±161g[mean±SD], 63(53%) boys, 19 multiples) treated with surgical ligation of PDA (mean postnatal age 22[range 3-82] days) and surviving to 1 year-of-age. Nutrition was collected from hospital charts (24 infants with incomplete records). Daily intakes of total enteral and parenteral nutrients, including blood products, were entered into a computer based tool for nutrition analysis. Provision of energy, protein, fat and carbohydrate was calculated three days before (day-3), on the day of surgery (day0) and three days after surgery (day+3). Data were compared to minimal requirements according to international recommendations.³

Results: The fluid volume day0 was 166±44 ml/kg/d and was the same as day-3(165±31) and day+3(164±36, mean±SD).

Nutrients, % of minimal req.(95%CI)	Day -3	Day 0	Day +3	Minimal req3
Energy	83-91	62-70	83-89	110 kcal/kg/d
Protein	73-81	68-80	71-77	4.0g/kg/d
Fat	82-98	45-55	85-99	4.8g/kg/d
Carbohydrate	95-105	111-121	96-104	12g/100kcal

[table1]

Conclusions: Peri-operative nutrition for extremely preterm infants undergoing surgical treatment for PDA is suboptimal and needs to be improved. The significance of malnutrition for outcome after PDA surgery is still unclear and will be investigated.

1. JAMA 2009;301(21):2225-2233

2. Acta Paediatr 2010;99:978-992

3. J Pediatr Gastroenterol Nutr 2010;50;1-9