

immediate debriefs after the event would be very useful as well a better understanding of the multicultural religious rituals of the families.

Conclusion: Healthcare professionals support the grieving family but also recognize their inadequacy as supporters. Learning end-of-life skills is a matter of on-the-job training for most healthcare professionals. Personal experience of bereavement influences the way we manage end of life care professionally.

119

EXPERIENCES OF GRIEF BY PEDIATRIC INTENSIVE CARE NURSES IN PADUA UNIVERSITY HOSPITAL: AN EXPLORATORY STUDY

D. Tirelli¹, I. de Barbieri², C. Zaggia²

¹Casa di Cura 'Città di Udine', Udine, ²Terapia Intensiva Pediatrica, Azienda Ospedaliera di Padova, Padova, Italy

Background: Nurses in Pediatric Intensive Care Units (PICU) are daily exposed to the suffering and death of their patients. Often the emotional burden may become unbearable, dysfunctional responses may arise and reflect negatively on patients' care.

Aim: To explore emotions and personal, social and professional consequences experienced by nurses working in PICU. Support currently available and the need for specialistic support were examined, together with possible positive outcomes.

Methods: Exploratory approach supported with Van Kaam method for qualitative data analysis. All nurses providing direct care to patients in PICU were included and asked to fill a questionnaire about feelings and consequences regarding the patients' death, and open-ended answers.

Results: Results show nurses changes in emotional state (93%), in relationship with patients (73%) and with own partner/children (53%), with colleagues (40%) and in physical health (20%). Nurses report crying, diminished energy, troubled sleep, headache, difficult concentration, physical exhaustion, changes in appetite. Nurses use informal support, but they would use specialistic help if available. Among the positive outcomes, an enhanced purpose in life and a more intense caring for patient towards a dignified death.

Conclusions: Caring for dying babies is a heavy burden for nurses, leading to personal and social consequences on health and work. There is a strong need for specific support to maintain a high quality of care, the ability to establish a therapeutic relationship with patients, providing support to patient's family members and minimize negative consequences for nurses.

120

HYPOCHOLESTEROLEMIC EFFECT OF A 10% FISH OIL IV LIPID EMULSION IN PRETERM INFANTS

R. D'Ascenzo¹, L. Angelini¹, S. D'Egidio¹, M.P. Bellagamba¹, A. Bartoli¹, I. Burattini¹, P.E. Cogo², V.P. Carnielli¹

¹Salesi's Children Hospital, Ancona, ²University of Padova, Padova, Italy

Background: New lipid emulsions containing fish oil (FO) are recently became available, but there are no informations on their use in preterm infants.

Objective: To compare in preterms a 10% FO/50%MCT/40% soy emulsion (FMS) with a 50% MCT/50% soy emulsion (MS).

Design/Methods: Forty seven premature infants were randomized to receive FMS (n=23, GA 202 ± 17 days, BW 1017 ± 203 g) or MS (n=24, GA 195 ± 10 days, BW 1009 ± 211 g). The IV lipid dose was increased to 2,5 g·kg⁻¹·d⁻¹ within 7 days. All infants were on minimal enteral feeding from birth to d7; they reached full feed on d17. Plasma lipids were determined in cord blood and at d7 and D14 by gas chromatography and mass spectrometry. Routine biochemistry was also performed as part of standard practice. Data were compared using a t-test (p< 0.05).

Results: Plasma free cholesterol (FC) and cholesterol esters (CE) are reported below.

	Day 7		Day 14	
	FMS	MS	FMS	MS
FC (mg/dl)	50.4 ± 2.7 ^a	58.7 ± 2.4	47.4 ± 3.6	47.4 ± 2.3
CE (mg/dl)	73.7 ± 7.0 ^a	89.77 ± 6.5	72.0 ± 7.7 ^a	89.4 ± 6.5

[FC and CE (mean ± sem, ^apPlasma lipid classes and fatty acids are being analyzed.

Conclusion: The FMS emulsion was associated with a marked reduction of plasma cholesterol. If fish oil reduces cholesterol biosynthesis or enhances its clearance is unknown in preterm infants. The clinical benefits or lack of benefits of these findings should be assessed in cardiovascular and neurodevelopmental follow up studies.

121

OPTIMAL POTASSIUM INTAKE FOR PRETERM INFANTS ON PARENTERAL NUTRITION

F. Bonsante¹, S. Iacobelli¹, J. Huguency², J.-B. Gouyon¹

¹Department of Paediatrics, ²Pharmacy Hospital, University Hospital, Dijon, France

Background and aims: Current guidelines for preterm parenteral nutrition aim to approximate normal foetal growth and avoid postnatal catabolism by achieving an earlier and higher intake of amino acids (AA) and calories (early aggressive parenteral nutrition, EAPN). Few investigations have explored whether electrolytes and water homeostasis could be modified by EAPN, but none have assessed electrolytes needs on EAPN. We performed a prospective observational trial to estimate potassium needs in relation to nutritional approach.

Methods: During 14 months all preemies (≤ 32 weeks) receiving PN in central or peripheral venous line were eligible. During the first week, we performed daily determination of plasma and urine electrolytes (8-hour collection), we recorded intakes, body weight and calculated potassium balance. For analysis infants were divided into 3 groups: low protein (LP) $< 1\text{g/kg/day}$; medium protein (MP) $1\text{-}2\text{g/kg/day}$; high protein (HP) $> 2\text{g/kg/day}$.

Results: 154 infants were entered. In the HP group kaliemia and kaliuria were significantly lower and non-oliguric hyperkalemia was prevented. Potassium balance differed among groups: LP -3.6 mmol/kg/wk , MP -0.3 mmol/kg/wk and HP $+2.6\text{ mmol/kg/wk}$ ($p < 0.001$). AA intake was the main independent factor influencing potassium balance, followed by caloric intake and day of life.

Discussion: Potassium balance and homeostasis are influenced by cellular integrity and function. AA intake is the main determinant for avoiding catabolism after birth. We showed that early AA intake have a strong influence on potassium balance. Our data allow us to calculate the optimal potassium requirements, in relation to AA and caloric intakes and day of life.

122

POSTNATAL ENERGY AND PROTEIN DEFICITS ARE ASSOCIATED WITH POOR NEONATAL GROWTH: PRELIMINARY RESULTS FROM A SWEDISH POPULATION-BASED STUDY

E.K.M. Stoltz Sjöström¹, E. Szymlek-Gay¹, I. Öhlund¹, F. Ahlsson², M. Norman³, E. Engström⁴, A. Hellström⁴, V. Fellman⁵, E. Olhager⁶, F. Serenius^{1,2}, K. Källén⁷, M. Domellöf¹

¹Department of Clinical Sciences, Pediatrics, Umeå University, Umeå, ²Department of Women's and Children's Health, Uppsala University, Uppsala, ³Department of Clinical Science, Intervention, and Technology, Karolinska Institutet, Stockholm, ⁴Institute of Clinical Sciences, Section for the Health of Women and Children, Sahlgrenska University, Gothenburg, ⁵Department of Pediatrics, Clinical Sciences, Lund University, Lund, ⁶Department of Pediatrics, Linköping University, Linköping, ⁷Center of Reproductive Epidemiology, Lund University, Lund, Sweden

Background: Extremely preterm infants have extraordinarily high nutrient requirements and often show postnatal growth failure. It is still controversial, however, to what extent nutrition affects the weight development during the first weeks of life in these infants.

Aim: To explore possible associations of accumulated intake of macronutrients and weight development during the first 28 days of life.

Methods: All extremely preterm Swedish infants (< 27 gestational weeks) born between April 2004 and March 2007 (the EXPRESS-study) who survived > 24 hours ($n=600$). Parenteral and enteral nutrition data and anthropometric data for the first 28 days were collected. Data are mean \pm SD.

Results: Preliminary analyses of data from 152 infants (84 boys, gestational age 25.2 ± 1.0 weeks, birth weight $756\pm 168\text{g}$, birth length $32.2\pm 2.6\text{ cm}$ and head circumference $23.2\pm 1.5\text{ cm}$) showed that during the first 28 days of postnatal life, mean fluid intake was $164\pm 17\text{ ml/kg/d}$, energy $97\pm 13\text{ kcal/kg/d}$, protein $2.9\pm 0.5\text{ g/kg/d}$, carbohydrates $11.0\pm 1.1\text{ g/kg/d}$ and fat $4.6\pm 1.2\text{ g/kg/d}$. From birth to 28 days, Δ SDS was -2.2 SD for weight, -2.3 SD for length and -1.4 SD for head circumference. There was a significant correlation between Δ SDS for weight and protein intake ($r=+0.50$), energy intake ($r=+0.44$) and fat intake ($r=+0.39$) ($p < 0.001$ for all).

Conclusions: Extremely preterm Swedish infants