6.3 (2–11) days. Average weight gain was 14.5g/kg/day for E1 and 17.8g/kg/day for E2 cohort (p<0.05). No patients in either epoch had necrotising enterocolitis.

Conclusions We demonstrate that feeding regime standardisation results in better early weight gain. The latter has been associated with improved long-term motor and cognitive development, as shown by Franz et al in 2009. Our sample size prohibits further conclusions. More studies including larger numbers are warranted.

**MASSAGE THERAPY BY MOTHER OR NURSE: EFFECT ON WEIGHT GAIN OF PREMATURE INFANTS**

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Introduction Since the introduction of surfactant the survival rate of preterm infants increased significantly. This has brought the expert’s attention to maximizing the growth and development of this fragile population. Many studies demonstrated that massage has some roles in the weight gain of preterm infants. Our aim is to compare the effect of massage therapy among those who were massaged by a nurse or mother or none.

Method Our randomized clinical trial has three groups;

1. The infants who only received routine care and no massage,
2. those who received massage by an expert nurse and
3. and those who received massage by their mothers.

We recorded daily weight gain, the length of stay and fluid intake. We used the Kruskal–wallis test and the SPSS software.

Results The gestational age ranged between 28 to 34 weeks. At the end of the fifth day the group who were massaged by a nurse had significantly more weight gain compared to the other two groups. With 6.5±1.5 for the nurse group, 4.4± 0.6 for the mother group and 1.5±0.3 for the control group, P-value = 0.001. Those who were massaged by their mother had gained significantly more than the control group (P-value=0.05). There was no significant difference in the length of hospital stay among groups.

Discussion Our study shows that the five days massage therapy is a safe procedure for stable premature infants to facilitate their weight gain. Mothers can perform this procedure. However more studies are needed to increase the efficacy of their performance.

**CAN EARLY PARENTERAL LIPID AND HIGH DOSE AMINO ACID ADMINISTRATION IMPROVE GROWTH IN VLBW INFANTS?**

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Introduction The beneficial effects of early nutrition in preterm infants are well known. Nonetheless, almost all very low birth weight (VLBW; BW < 1500g) infants develop a protein and energy deficit in the first week of life and are growth impaired at discharged home.

We hypothesized that early parenteral lipid and high dose amino acid (AA) administration from birth onwards to VLBW infants is safe and increases growth.

Methods Inborn VLBW infants were randomized to one of three different parenteral nutritional regimens within 6hrs after birth (Figure).

Abstract 1396 Figure 1 Study design

Growth rates during the first 28 days of life and during total hospital stay were calculated and the incidence of common neonatal morbidities (e.g., BPD, PDA, NEC, sepsis, IVH, ROP) was recorded.

Results Growth was not significantly different between groups (Table; mean±SD). Mortality and the incidence of common neonatal morbidities were not significantly different between groups.

**WEIGHT GAIN (WG) AND SODIUM MONITORING IN VLBW INFANTS (VLBWI) FED DONOR HUMAN MILK (DM+) VERSUS NO DONOR MILK (DM-)**

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Background and Aims The impact of supplementing mother’s milk (MM) with donor milk (DM) upon VLBWI WG and serum Na (sNa) is unclear. This study aimed to compare WG, lowest sNa (sNa) is unclear. This study aimed to compare WG, lowest sNa during the first 56 days were collected between 10/2009–9/2011 for inborn VLBWI still hospitalized at 28 days. DM was tested for association with WG, LowNa, and number of sNa samples (NumNa) between birth and 56 days in DM+ versus DM- VLBWI.

Methods Single-center clinical/nutritional data, weekly weights and all sNa during the first 56 days were collected between 10/2009–9/2011 for inborn VLBWI still hospitalized at 28 days. DM was tested for association with WG, LowNa, and NumNa.

Results 95 VLBWI were studied, with GA 28.4±2.3 weeks, BW 1031±295 grams, 29 (31%) DM+. Median enteral intake in the first 28 days (EI28) was 1791 ml (range 0–5882); among DM+, median DM intake (DMI28) was 787 ml (range 76–2105). DM+ versus DM- did not differ in GA, BWt, gender, race, EI28, or days on ventilator, CPAp or parenteral nutrition in the first 28 days. At 56 days, overall median (IQR) WG was 1047 (902, 1192) gm/kg BWt, overall LowNa was 132 (128.5, 135) mEq/L. NumNa was 19 (9.5, 37). In univariate analysis, DM+ and DM- did not differ regarding WG, LowNa, or NumNa (Table1). In multivariable linear mixed modeling DMI28 was associated with a statistically significant but trivial decrease in LowNa (Table2), and was not an independent determinant of WG or NumNa.
Conclusions DM supplement to MM supports growth in VLBWI without adversely affecting LowNa or NumNa.

Table 1: Univariate comparisons of VLBW infants receiving any donor human milk (DM+) and no donor milk (DM-). The two groups did not differ with respect to lowest serum Na, number of serum Na samples, or weight gain.

<table>
<thead>
<tr>
<th>Variable</th>
<th>DM+</th>
<th>DM-</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest serum Na at birth and 66 days, mM</td>
<td>134 (129, 135)</td>
<td>131.5 (128, 138)</td>
<td>0.509</td>
</tr>
<tr>
<td>Number of serum Na samples between birth and 66 days</td>
<td>15 (9, 33)</td>
<td>20.5 (11, 37)</td>
<td>0.363</td>
</tr>
<tr>
<td>Weight gain at 240 days, gram/s/milk</td>
<td>239 (203, 409)</td>
<td>252 (230, 356)</td>
<td>0.193</td>
</tr>
<tr>
<td>Weight gain at 66 days, gram/s/milk</td>
<td>1034 (931, 1100)</td>
<td>1489 (900, 1200)</td>
<td>0.268</td>
</tr>
</tbody>
</table>

Methods Our NICU instituted nutritional guidelines in July 2008 after exhaustive review and discussion of best available evidence. Recommendations included early introduction of trophic enteral feeding (TF), timing and rate for advancing enteral feeds and criteria for its discontinuation, among others. We performed a retrospective review of charts in all ELBW admitted between January 2007 and December 2010. Demographic information, time to introduction of TF, age at which feedings were advanced and full feed were achieved, days on Total Parenteral Nutrition (TPN) and days of Percutaneously Inserted Central Catheters (PICC), growth parameters and outcome were analyzed and compared for ELBW population before (Period 1) and after (Period 2) the institution of nutritional guidelines.

Results

Abstract 1399 Table 1 Comparison between Period 1 and Period 2

<table>
<thead>
<tr>
<th></th>
<th>Period 1 (n=83)</th>
<th>Period 2 (n=103)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF at 48 hs (%)</td>
<td>37</td>
<td>39</td>
</tr>
<tr>
<td>Enteral feeds &gt; 20 ml/kg by DOL 7 (%)</td>
<td>42</td>
<td>60 *</td>
</tr>
<tr>
<td>Full feeds at DOL 28 (%)</td>
<td>41</td>
<td>80 *</td>
</tr>
<tr>
<td>Days on TPN (mean±SE)</td>
<td>32±3</td>
<td>22.7±2.4 *</td>
</tr>
<tr>
<td>PICC days (mean±SE)</td>
<td>32.7±4.2</td>
<td>21.4±2.5 *</td>
</tr>
<tr>
<td>NEC Stage 2 (%)</td>
<td>12.7</td>
<td>13</td>
</tr>
</tbody>
</table>

Conclusions The institution of nutritional guidelines resulted in significant improvement in nutritional indicators in our population.

Background Adequate postnatal nutrition and growth are essential for optimal neurodevelopment in VLBW infants. In an effort to optimize nutrition, early TPN implementation is recommended while enteral nutrition is achieved. However, excessive caloric intake could result in disproportionate accretion of body fat leading to metabolic syndrome later in life.

Aim To identify the influence of early postnatal nutrition on body fat composition in VLBW infants.

Design/methods We included all infants admitted to our NICU from July 30, 2011 to December 31, 2011 with a birth weight ≤ 1500 grams that survived at least 4 weeks and received TPN. We excluded infants with major congenital anomalies. Body composition was measured weekly using an air displacement plethysmograph (Pod, Cosmed).

Conclusions DM supplement to MM supports growth in VLBWI without adversely affecting LowNa or NumNa.