IGF-I and growth in early childhood in VLBW infants versus term born infants

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Background:
• growth restriction in early childhood is common in VLBW infants
• IGF-I regulates growth

Objective:
• to compare IGF-I and growth in early childhood in VLBW infants to term born AGA infants

Study design:
• 41 VLBW infants participating in NIRTURE (GA 27.9±1.3wks, BW 1059±231g)
• 64 term born AGA infants (GA 39.3±1.2wks, BW 3529±393g)
• anthropometry at 0, 3, 6, 12 and 24 months (corrected) age
• IGF-I in serum at 6 and 24 months (VLBW)/3, 12 and 24 months (term)

Results:
• VLBW children are shorter until 1 year CA and lighter/thinner during the first 2 years
• in VLBW children IGF-I at 2 years CA is higher (p=0.021)
• IGF-I in VLBW and term children at all ages correlated to
  growth parameters at the corresponding age
  change in growth parameters in the preceding period

![Graph showing weight and length over time for VLBW and term infants]

Conclusions:
• the role of IGF-I in early childhood is apparent from the relation to preceding growth
• higher IGF-I in VLBW children could indicate an important role in catch-up growth in length

<table>
<thead>
<tr>
<th>IGF-I (nmol/l) median (range)</th>
<th>VLBW (21M/20F)</th>
<th>Term (35M/29F)</th>
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</thead>
<tbody>
<tr>
<td>3 months</td>
<td>7.7 (3.7-14.4)</td>
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<tr>
<td>6 months</td>
<td>10.2 (2.3-30.9)</td>
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<tr>
<td>12 months</td>
<td>6.8 (2.0-19.0)</td>
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<tr>
<td>24 months</td>
<td>11.6 (3.5-26.8)</td>
<td>9.5 (4.2-21.0)</td>
</tr>
</tbody>
</table>

Abbreviations: AGA appropriate for gestational age; BW birth weight; CA corrected age; GA gestational age; IGF-I insulin-like growth factor I; NIRTURE Neonatal Insulin Replacement Therapy in Europe; VLBW very-low-birth-weight

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