Clinical characteristics in children with spastic cerebral palsy born prematurely and at term

Kristin Høgetveit¹; Guro L. Andersen, PhD, MD¹,²; Torstein Vik, PhD, MD¹

¹ Department of Laboratory Medicine, Children’s and Women’s Health, Norwegian University of Science and Technology, Trondheim, Norway
² The Cerebral Palsy Registry of Norway, Vestfold Hospital Trust, Tønsberg, Norway

BACKGROUND
The distribution of cerebral palsy (CP) subtypes and etiological mechanisms differ between children with cerebral palsy born at term and preterm.

OBJECTIVE
To explore clinical characteristics of children born preterm and at term with spastic CP.

STUDY PARTICIPANTS/SETTING
790 children with spastic CP born 1999-2008. Mean age: 6 years; 338 (43%) born preterm.

METHODS
Clinical characteristics were abstracted from The Cerebral Palsy Registry of Norway:
- Gross and fine motor function
- Presence of epilepsy
- Feeding difficulties
- Presence of gastrostomy
- Speech problems
- Height and weight

Data on duration of pregnancy was obtained from the Medical Birth Registry of Norway.

RESULTS
The table shows the well-known differences in the distribution of spastic CP subtypes between the two groups.

However, clinical manifestations differed little between children born preterm and at term (Figure), albeit statistically significant for the distributions of MACS and GMFCS (p<0.001 for both). The most noteworthy difference was that 10% of the children born preterm had no speech compared with 18% of those born at term (p=0.002).

<table>
<thead>
<tr>
<th>CP Subtype</th>
<th>Preterm</th>
<th>At Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spastic unilateral</td>
<td>120 (36%)</td>
<td>265 (59%)</td>
</tr>
<tr>
<td>Spastic bilateral</td>
<td>218 (64%)</td>
<td>187 (41%)</td>
</tr>
<tr>
<td>Diplegia</td>
<td>167 (77%)</td>
<td>110 (59%)*</td>
</tr>
<tr>
<td>Quadriplegia</td>
<td>51 (23%)</td>
<td>77 (41%)*</td>
</tr>
</tbody>
</table>

Table: Differences in the distribution of spastic CP subtypes between children born preterm and at term.

*Percentages of children with bilateral CP

CONCLUSIONS
Our findings confirmed the well-known difference in distribution of spastic CP subtypes between children born preterm and at term. Except for a higher proportion of children born at term without intelligible speech, clinical characteristics were surprisingly similar.