Background

Postneonatal Cerebral Palsy (CP)
- Estimated to account for 5–15% of all CP
- Etiology
  - Infection
  - Injury
  - Cerebrovascular accident (CVA)
  - Other (e.g., hypoxic events, post-seizure)
- Greatest potential for prevention
  - Vaccination
  - Injury prevention

Study Aims

- Postneonatal CP as a proportion of all CP during 1991–2008
- Variation in prevalence of postneonatal CP by demographic factors
- Case criteria:
  - Resided in five county surveillance area at any time during study year
  - Born 8 years prior to study year
  - Diagnosis of CP or physical findings consistent with cerebral palsy noted in evaluations at age 2 or older by a qualified professional (98% of cases had CP diagnosis in records)
- Postneonatal CP: CP attributed to infection, CVA, or other causes occurring after 28 days, or attributed to injury occurring after birth
- Prevalence per 10,000 children aged 8 years living in five counties of metropolitan Atlanta during the study year (US census data)
- Analytic approach: stratified analysis, chi-square tests

Methods

Metropolitan Atlanta Developmental Disabilities Surveillance Program (MADDSP)
- Population-based, records-based active surveillance of developmental disabilities
- Screening and abstraction of records at multiple health and educational sources
- Expert clinician review of records to determine CP case status, subtype, and postneonatal etiology

Results

Summary CP Prevalence

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall CP prevalence per 10,000</td>
<td>3.2</td>
<td>3.0</td>
<td>2.9</td>
</tr>
<tr>
<td>Postneonatal CP prevalence per 10,000</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Sex and Race/Ethnicity by Time Period

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall CP prevalence per 10,000</td>
<td>3.2</td>
<td>3.0</td>
<td>2.9</td>
</tr>
<tr>
<td>Postneonatal CP prevalence per 10,000</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Key Findings

  - Decreased 49% among males
  - Decreased 44% among Black, non-Hispanic children
  - Infection-related CP decreased 73%
- Prevalence higher for Black, non-Hispanic compared to White, non-Hispanic children
  - Significantly higher for 1991–1996 (prevalence ratio 1.3, p<0.01)
  - Non-significantly higher for 2000–2008 (prevalence ratio 1.6)
  - Due to higher prevalence for CP related to infection and injury
- Overall CP prevalence did not decline

Conclusions

- Prevalence of postneonatal CP declined significantly between 1991 and 2008
  - Decrease in all postneonatal etiologic categories
  - Significant decrease in CP attributed to postneonatal infection
    - Hib vaccine introduced late 1980s
- Black, non-Hispanic children had a significantly higher prevalence than White, non-Hispanic children, particularly for CP attributed to postneonatal infection, but gap narrowed in later surveillance period.
  - Socioeconomic disparities
  - Access to healthcare
  - Prevention opportunities still exist

Limitations

- Reliant on information available in records
- Unable to characterize etiology for some children
  - Some children with a postneonatal etiology might have been missed due to incomplete data
  - Specific etiology unknown for some children, particularly children with a CVA
- Limited ability to analyze subgroups due to small numbers

References


Contact

Contact: Daisy Christensen, PhD, dqc3@cdc.gov