Perinatal environmental factors and parental psychopathology were associated with risk of autism in Danish children


Clinical impact ratings GP/FP/Mental Health ★★★★★☆ Paediatrics ★★★★★★ Psychiatry ★★★★★★★

In Danish children, are perinatal factors and parental psychiatric history and social economic status associated with subsequent development of autism?

**METHODS**

**Design:** a case control study nested within a cohort of all children born in Denmark after 1972.

**Setting:** Denmark

**Patients:** 698 children (76% boys, mean age at diagnosis 7.7 y) who were discharged from a Danish psychiatric hospital with a diagnosis of infantile or atypical autism before the end of December 1999 constituted the cases. For each case, 25 controls (total n = 17,450) were identified and individually matched to the cases by sex, birth year, and age in days.

**Risk factors:** perinatal risk factors including delivery and newborn characteristics (eg, fetal presentation, Apgar score at 5 min, and gestational age at birth), pregnancy characteristics (eg, multiple gestation), and parental characteristics (eg, maternal and paternal age, parental psychiatric history defined as present if a psychiatric diagnosis had been recorded before the date autism was diagnosed in the child; and socioeconomic status).

**Outcome:** a diagnosis of infantile or atypical autism.

**MAIN RESULTS**

595 cases and associated controls were included in the adjusted analyses. The risk of autism was increased for breech presentation, Apgar score < 7 at 5 minutes, and gestation age at birth < 35 weeks, and for children of parents with a history of schizophrenia like psychosis or affective disorder (table).

**CONCLUSION**

In Danish children, perinatal environmental risk factors and parental psychiatric history were associated with subsequent development of autism.

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**Risk factors for autism in Danish children born after 1972 who were at risk until 1999**

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Comparison</th>
<th>RR (95% CI)†</th>
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<tbody>
<tr>
<td>Fetal presentation</td>
<td>Breech v cephalic</td>
<td>1.63 (1.18 to 2.26)</td>
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<tr>
<td>Apgar score at 5 minutes</td>
<td>1–7 v 10</td>
<td>1.89 (1.10 to 3.27)</td>
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<tr>
<td>Gestational age at birth (wks)</td>
<td>&lt; 35 v 37-42</td>
<td>2.45 (1.55 to 3.86)</td>
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<tr>
<td>Parental psychiatric history</td>
<td>Schizophrenia-like psychosis v none</td>
<td>3.44 (1.48 to 7.95)</td>
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<td></td>
<td>Affective disorder v none</td>
<td>2.91 (1.65 to 5.14)</td>
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<tr>
<td></td>
<td>Other v none</td>
<td>2.85 (2.20 to 3.69)</td>
</tr>
</tbody>
</table>

*RR = relative risk. CI defined in glossary.
†Adjusted model including perinatal factors, parental psychiatric history, and socioeconomic characteristics.