



Cerebral plays and congenital malformations.

Garne E, Dolk H, Krägeloh-Mann I, Holst Ravn S, Cans C; SCPE Collaborative Group. European journal of paediatric neurology: EJPN: Official journal of European Paediatric Neurology Society. **2008 Mar**;12(2):82-8

Background

Congenital malformations are anomalies present at birth, observed in 2 to 3 % of children. They concerned any kind of organ, which can wrongly developed during in utero life. Such anomalies, in particular those concerning the brain, are encountered in children with cerebral palsy.

What was the aim?

This paper set out to answer the following questions:

- How many children with CP have a congenital anomaly?
- Which congenital anomalies are more frequently observed in children with CP?
- Is the frequency of children with CP having a congenital anomaly higher than in other population?

How was the work carried out?

Data on children with CP from different places in Europe (eleven population based registers) were pooled together. Data concerned children born 1976-1996. They were reported under four categories of congenital anomalies, i.e. syndrome, chromosomal anomalies, brain malformation and non-brain malformation.

What were the findings?

A total of 547 children with CP had a congenital anomaly, i.e. 12 % among the 4584 children with CP. Most of the children with a congenital anomaly (n=394) had a brain malformation. Among them, the more frequent malformations were microcephaly (n=102)

and hydrocephaly (n=74). Among the non-brain malformations, those more frequently encountered were cardiac, facial clefts, limb and skeleton.

Congenital malformations were at least four times more frequent in children with CP than in general population. And among children with CP, these congenital malformations were less frequently observed when the child was born very premature. Malformations close to the brain were more frequently observed in children with CP.

What does this tell us?

In Europe, one child out of 50 is born with a congenital malformation. Among children with CP, at least one out of 10 has a malformation, most often a brain malformation, and mainly when the child is born at term. Children who are born with a brain malformation are more susceptible to develop CP than children who are born with another non brain-malformation, and than children who are born without any malformation.

Further work

There are large number of different congenital malformations, which vary according to the type of CP. Thus large population studies are required to analyse this relation between CP and congenital malformations. Improvement in imaging performed for children with CP will be helpful.

Paper The full results of this study can be found in European journal of paediatric neurology. 2008 Mar;12(2):82-8.

Pubmed abstract The summary of this study can be found in Pubmed, a database of citations from biomedical journals. <http://www.ncbi.nlm.nih.gov/pubmed/17881257>

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