Causes of cerebral palsy

Cerebral palsy is the term for a group of disorders and has many different causes. It is important to distinguish between risk factors, which may or may not result in cerebral palsy, and known definite causes. Approximately 75% of cerebral palsy occurs from events in the antenatal period, 15% from the perinatal period and 10% in the post-neonatal period.

Risk factors

Prenatal, perinatal and post-neonatal risk factors include being born prematurely (the earlier the gestation, the greater the risk), having a low birth weight, being a product of a multiple birth, maternal infections during pregnancy, birth complications including umbilical cord problems and neonatal encephalopathy which may sometimes result from oxygen deprivation during labour or delivery.

Causes

Known causes of cerebral palsy include congenital intrauterine infection (e.g. rubella, cytomegalovirus, toxoplasmosis), vascular events (e.g. middle cerebral artery occlusion) and brain malformations (e.g. cortical dysplasias).

Post-neonatal events are easier to identify and include:

- Accidental injury e.g. hypoxic events – such as near drowning accidents, head trauma – such as from motor vehicle accidents.
- Non-accidental injury, resulting in head injury.
- Severe brain infections e.g. meningitis.

The importance of identifying the cause

Knowing the cause of cerebral palsy provides information important to the person concerned, the family and the medical practitioners. Knowing the aetiology:

- Informs medical care.
- Explains when and why the disability occurred which is particularly important for individuals with cerebral palsy and their families as it may help them resolve some of their questions.
- Indicates recurrence risk.
- Facilitates understanding of behaviours that a person may exhibit.
- Enables individuals/families to locate specific information relevant to the aetiology including specific medical information and support groups.

Information about the cause of cerebral palsy is also important for research into treatment and prevention.

Investigations

- There is increasing interest in the role that genetic factors may play in the genesis of some cases of cerebral palsy. Only a few definite genetic causes have so far been identified. Because the understanding of genetics is developing so rapidly, genetic review every five years is suggested for people with cerebral palsy and intellectual disability who have not had a definitive cause for their disability identified.[1]
- The American Academy of Neurology's Practice Parameter recommends that an MRI brain scan should be performed if the cause of the cerebral palsy is not apparent.[2]
- Investigations such as urinary metabolic screening may also be helpful, particularly when risk factors and causes are not apparent and also when there is an atypical clinical presentation.
- A review by a neurologist or a geneticist may be worthwhile to guide investigations.

REFERENCES

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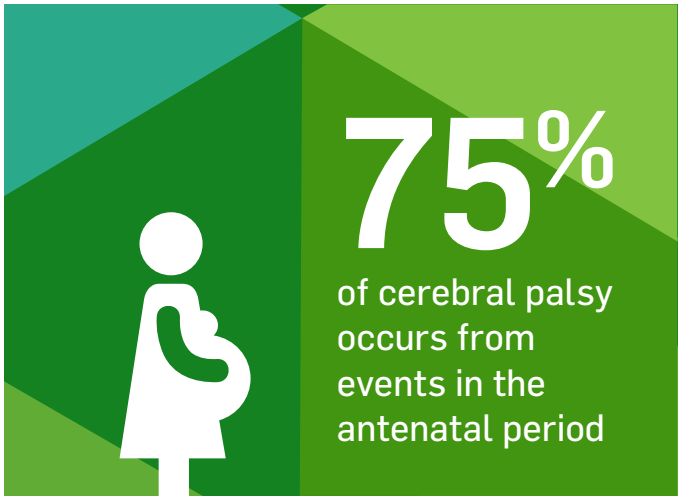
2. Ashwal S, Russman BS, Blasco PA, Miller G, Sandler A, Shevell M, Stevenson R; Quality Standards Subcommittee of the American Academy of Neurology; Practice Committee of the Child Neurology Society. *Practice parameter: diagnostic assessment of the child with cerebral palsy: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society. Neurology.* 2004 Mar 23;62(6):851-63.



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