Cerebral Palsy in Children

Cerebral palsy in children is one of the most common neurological diseases in children. Its incidence is 2-4 in 1 000 newborns and it ´s very often connected with some complication during the childbirth or after. The main symptom is a motor dysfunction, which combines an affection of movements and posture. Although it is already known for ages, it was officially described in 1861 by an English surgeon Dr. Wiliam John Little (*Little´s disease*).

Remember well that cerebral palsy in children is **a non-progressive disease**, so the symptomes, which occur after the birth, are the same for the rest of their lifes. Or they may slightly improve by exercise and rehabilitation. If there is any sign of progressive deterioration, we have to think about some neurometabolic diseases!

Etiology

The origin of cerebral palsy in children is a damage of some special area of brain before, during or early after a delivery. There is a list of the most common risk factors below:

Risk Factors

1. **prenatal** – inflammation of mother (German measles), radiation, some drugs, developmental malformations, RH-incompatibility
2. **during childbirth** – asphyxia, low birth weight, premature infant
3. **early postnatal** – meningitis, hyperbilirubinemia, bleeding into the brain

Symptoms

Cerebral palsy in children occurs right after the childbirth or in early childhood, but fortunatelly, it is not a progressive disease. The symptoms can be pretty variable, but some **motor disability** is always present. From others we can mention these:

- epilepsy
- mental retardation
- sensoric dysfunction **(E.g.: blindness or deafness)**
- lethargy and poor feeding
- change of a muscle tone
- trembling of limbs

Forms of Cerebral Palsy in Children

Spastic Form

- hypertonia and hypereflexia

1. in 1/3 of cases there is a *diparetic disability* (mainly low limbs), which is connected with **spastic paraplegia** (legs are in a position reminiscent of scissors)
2. *a hemiparetic dysfunction* affects more upper limbs and it is connected with mental retardation more often
3. *a quadruparetic disability* is the worst form and includes disability of all limbs, mental retardation and also epilepsy

Athetoid Form

- less common (just in 25% of all cases)
- uncontrolled movement (dystonia or chorea)
- usually normal mental abilities, but in a combination with dysarthria

Ataxic Form

- usually connected with some damage of the cerebellum → disturbed sense of balance

Mixed Form

- a combination of the previous forms

Diagnosis

Diagnosis is based on its symptoms and there is **no specific test** for it. The most important is that the disease have to be **non-progressive** since a childbirth. If there is any progression, we have to think about neurometabolic or neurodegenerative diseases. We can usually find some risk factors in the patients and disease should not occur later than in early childhood.

Also some **specific methods** can be used to discover the origin of brain damage – MRI, CT.

Therapy

There is **no special therapy** for cerebral palsy in children, because these inborn damages of brain are not curable. So the only way, how to help to the patients, is supportive therapy. It includes **physical therapy** to improve movement ability, speech therapy for dysarthria, **rehabilitation** or **psychological help**. As mentioned above, children usually suffer from some mental retardation, so **special education** is suitable for them.

At the age of 8-10 years the children can undergo corrective orthopedic **surgery** or **rhizotomy** (incomplete interruption of posterior spinal roots of L2). The only **medication** is used in spastic form – myorelaxants and botulin-toxin.

Links

Related articles

- Cerebellum
- Epilepsy
- Mental retardation
- CT
- MRI

External links

- About-cerebral-palsy.org (http://www.about-cerebral-palsy.org/cerebral-palsy-history/index.html)
- Cerebral Palsy Resources for Parents (http://www.cerebralpalsylawyersfaq.com/resources/)

Bibliography

- NEVŠÍMALOVÁ,RŮŽIČKA, TICHÝ,, et al. *Neurologie.* 1st edition. 2005. ISBN 80-7262-160-2.