

# **CEREBRAL PALSY**

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BY DR. JULIUS OGENG'O

"It ought to be generally known that the source of our pleasure, merriment, laughter, amusement and as our grief, pain, anxiety, and fears, is none other than the brain. It is especially the organ which enables us to think, see and hear, and to distinguish the ugly and the beautiful, the bad and the good, pleasant and unpleasant. Sometimes we judge according to the perception of expediency. It is the brain too which is the seat of madness and delirium, of the fears and frights which assail us, often by night, but sometimes even by day; it is there where lies the cause of insomnia and sleep walking, or thoughts that will not come; forgotten duties; and eccentricities. All such things result from an unhealthy condition of the brain."

*Hippocrates.*

The term cerebral palsy does not designate a disease in any usual sense. It is however a useful term which covers individuals who are handicapped by disorders of movement which are due to non progressive abnormalities of the brain. Two relatively arbitrary criteria are accepted for the designation of cerebral palsy:



*Dr. Ogeng'o: "Cerebral palsy is a term encompassing many disorders whose original cause is damage to the brain. The causes may occur before, during or after birth."*

- The original disorder/abnormality must occur early in life, that is, before birth, during the birth process or in early childhood.
- No active disease should exist at the time of diagnosis. For example, a child may have a blood vessel abnormality in the course of an infection, with consequent paralysis. Such a child may not be designated as having cerebral palsy until all evidence of active disease has subsided.

Cerebral palsy is not uncommon. It is found in between 1 and 2 per 1000 live births, sometimes more frequently than this. The causes are numerous, and sometimes complexly interrelated.

Two cases graphically illustrate this.

## Where Possible Cause was Before Birth

**Tony** was a second twin. The other was still born and presumed to have been dead for 2 months before birth. New born period was marked by abnormal crying and twitching. He later developed a small brain, idiocy and generalized rigidity.

**Angie's** mother was overcome by illuminating gas at 2 months pregnancy, and was unconscious all night; spent 7 days in hospital. Angie's birth history was entirely normal, but she was somewhat blue for the first 24 hours. She later became generally awkward, with impairment of eye movements, and borderline intelligence.

## Where Possible Cause was Birth Trauma:

**Patty** was delivered after prolonged hard labour; and had a swelling on the head as well as convulsions during the newborn period. The right arm was never used; and right side paralysis became obvious at 6 months.

**Chege** was born at term with abnormal presentation following 14 hours of hard first time labour

and forceps extraction.

Bleeding from the ear and mouth was noted during the newborn period and there was a swelling on the head. He later developed one side paralysis.

**Where Possible Cause was Deficient Oxygen Supply at Birth**

**Matheshe** was born prematurely at 7 months of pregnancy, following severe bleeding due to abnormality placenta. He developed poor feeding in new born period, and paralysis of all four extremities at 2 years.

**Where Possible Cause was After Birth**

**Maina** was born at term, in a smooth hospital delivery. 2 days after, he travelled from Nairobi to Busia, to attend his grandmother's funeral. During the second week of life he developed a fever which was found to be due to a viral infection. He convulsed several times before he lapsed into a coma for 3 days.

The fever subsided and he came out of comma paralysed on one side. He developed epilepsy and by 5 years he had not started walking. Neither could he see.

**Mueni** was born at term, in a normal delivery. On the way from hospital, she was involved in a road accident and sustained head injury with bleeding into the brain. She was unconscious for 3 days, and developed abnormal involuntary movement of the right side of the body. She could not hear or see. At five she had not been able to support her head.

**Nandwa** was delivered at

home, and brought to hospital not breathing. The doctor resuscitated him for more than two hours before spontaneous respiration established. He developed awkward abnormal movements with a strange stammer.

These notwithstanding, the causes of cerebral palsy can be summarized as:

- Those that happen before birth such as umbilical cord kinking, knotting etc; infections such as syphilis; viral meningitis; African and German measles; drug and/or other poisoning; abnormal development/functioning of the brain; abnormalities or vital sys-

- The symptoms and signs of cerebral palsy are variable; but four characteristics are notable:

- **Mental retardation:** This may be the predominant symptom, sometimes occurring in the absence of any gross disturbance of movement except such clumsiness as results from an inability to learn to control the limbs. Frequently the child appears to be more backward mentally than is actually the case, since his slowness in learning to walk, and his clumsiness in using his hands retard his mental development. Some children, though developing late ultimately achieve a high degree of intelligence in spite of severe movement disabilities.

- **Weakness and stiffness:** Both sides are affected, and the lower extremities are more affected. The child tends to walk on toes and the knees may rub together, or may be actually crossed. The back may bend to one side or the other. Various parts of the body

may show paralysis.

- **Involuntary movements:** These are most evident in slighter cases, being replaced by muscle stiffness in the more severe cases. The face is expressionless, but involuntary laughing and crying frequently occur. There are gross disturbances of voice production and speech articulation, of chewing and swallowing. Voluntary movement of the limbs is slow and clumsy.

- **Loss of balance/equilibrium and muscle coordination.** The eyes display abnormal movements, speech is slurred and gait

The control/prevention of cerebral palsy depends on ability to predict; and thus avoid the risk factors involved.

tems and also of the placenta.

- Those that happen during birth, such as damage to the brain from, too fast, too hard, too long or instrumental delivery. Umbilical cord prolapse, bad presentation of the baby, are all important. They may cause direct damage or damage brain blood vessels.

- Those that happen after birth. These include neonatal infections such as whooping cough; measles; typhoid fever; pneumonia; ear infections; meningitis or cerebral malaria; neonatal trauma, severe oxygen and glucose deprivation etc; brain tumor.

is staggered. Other known presentations may include blindness, deafness or both. A good percentage will be epileptic and delayed puberty is not uncommon.

The diagnosis is based on the presence of the signs and symptoms from early in life in the absence of active disease. Usually it is important to go through all the tests from simple urine, stool and blood tests; to complex ones like CT scans, to distinguish cerebral palsy from brain tumors, brain infections, blood vessels problems etc.

Once a diagnosis of cerebral palsy has been made, the treatment consists essentially of education of movement (physio- and occupational therapy), combined with the removal as far as possible of the obstacles which result from any deformities. Every effort must be made to help the child to learn to walk, and by means of simple games and occupations involving manipulative skills, he/she must gradually be taught control over movements of the upper limbs. Generally, treatment must be tailored to the needs of the individual case. Some drugs are useful in reducing muscular rigidity and others will minimize abnormal movement. Sometimes surgical treatment may be needed. Either way, the care of a child with cerebral palsy must be a combined effort between the family and the various medical experts.

The control/prevention of cerebral palsy depends on ability to predict, and thus avoid the risk factors involved. Suggested mea-

asures include:

- Prepare for pregnancy at the right age, and report to the nearest clinic once you get pregnant. Honour all appointments at the clinic, and complain to the medical attendant about any slight deviation from the normal, for example, fever, faintness, pain etc. Follow the medical attendant's instructions to the dot.
- Do not attempt to deliver at home if you are a "risk" mother, for example small in size, or baby is too big, presence of disease, previous lost pregnancy etc.
- Observe your baby care-

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fully and report to your doctor any abnormalities such as difficulty in breathing, blue coloration of the tongue, lips and hands, fever, yellow coloration of lips and tongue.

- Keep yourself and your newborn baby in a clean, well fed state, observing a balanced diet all the time.
- Avoid unnecessary falls and bangs to yourself in pregnancy and to your new born baby.

The outcome of cerebral palsy is not too hopeful. It is estimated that of seven affected infants, one is likely to die; one will be grossly physically crippled, two severely mentally retarded, one will be mildly affected with minor incapacity, and the remaining two are

likely to require special treatment. Generally, however, the outcome depends on the severity and especially upon the degree of mental retardation. In the most severe cases, the child will rarely survive for more than a year or two, usually succumbing to pneumonia. Even when the disability is only moderately severe, many affected individuals fall to survive beyond the early years of adult life.

Although the condition sometimes remains stationary, there is usually a very slow improvement in the muscle function, but this depends chiefly upon the mental state of the patient, and little improvement can be expected when severe mental retardation is present. In favourable cases, it may be expected that a child will learn to walk, even though he may not do so until he/she is 5 or 6 years old.

In conclusion, cerebral palsy is a term encompassing many disorders whose original cause is damage to the brain. The causes may occur before, during or after birth. The condition is non progressive, without definite treatment and mainly disabling. One can however contribute to the decline in incidence by attending antenatal clinics early, having neonatal infections treated early. Always give your doctors a chance to advise you; and when you suspect your child to be abnormal, let the doctor establish the diagnosis and guide you. Follow the doctor's instructions thereafter for the "Mganga" will not change a thing. □