Cerebral palsy: symptoms, study the issue

Science, Biology

Cerebral Palsy is an umbrella term for a group of movement limiting disorders resulting in muscle tightness, muscle weakness and tremors in one or more limb. This often manifests itself as poor balance and coordination, but the symptoms can vary greatly from person to person, as some suffering from the condition can function almost completely normally while others are completely unable to care for themselves. Cerebral palsy is often referred to as a spectrum disorder as it covers diagnosed individuals that may fall anywhere between the two extremes. The disorder almost always affects children early in life and is not progressive, meaning it does not get worse over time. Infants with cerebral palsy can be recognized very early, as most symptoms first become evident between 2 months and 2 years of age. The clearest indicator of cerebral palsy in children is a developmental delay, since affected children will have difficulty learning basic and fine motor skills. Cerebral palsy, in its varying degrees, is actually the most prevalent movement disorder in children, affecting two per thousand live births, although this figure is quite significantly higher when analyzing only babies born weighing less than 1500g. When diagnosing a child with cerebral palsy, particularly stiff or floppy muscle tone, difficulty crawling or walking, a strong favoring of one limb over it’s opposite or difficulty controlling one arm can all be excellent tells. A large portion of those affected get cerebral palsy during or after birth following any sort of event that could possibly damage the child’s brain, impeding their ability to control the cerebral cortex, the part of the brain in charge of muscle function. Possible causes are blood flow issues in development, genetic abnormalities, maternal infections or injuries before, during and after birth.

Cerebral palsy has been affecting humans for essentially all of recorded history, although it wasn’t until nearly 1900 that it was connected to brain damage around childbirth. Neurologist William Gowers named the paralysis from birth ‘ birth palsy’, and broke it into two specific types: peripheral palsy and cerebral palsy. Peripheral palsy affects facial nerves causing the person to have little or no control over parts of their face, whereas cerebral palsy limits the person’s control over the cerebral cortex, causing them to have little or no control over groups of muscles in one or more limb. Initially, and often throughout the eighteenth and nineteenth century, cerebral palsy was actually mistaken for polio, as cerebral palsy’s more severe cases can appear very similar to the paralyzing effects of polio, especially when examining an infant. As time progressed, doctors were able to tell the difference and realized that while cerebral palsy can not be cured, patients could be given physical rehabilitation to greatly increase their level of ability. Today there is a great deal of medical structure helping children with cerebral palsy keep their bodies as functional as possible with mild or extensive physical therapy, dependant on the severity of the case.

Since cerebral palsy is almost always caused by damage to the brain during development, and has no cure, the most effective way to treat cerebral palsy is to prevent it. Some of the most current strategies to decrease the risk of cerebral palsy include medical intervention to prolong pregnancy, antenatal steroids for mothers expected to deliver prematurely, and caffeine for extremely low birth weight children. Low birth weight children are actually several times more susceptible to developing cerebral palsy, as their brains are not able to fully develop outside of the womb. Approximately fifty

percent of cerebral palsy cases come from premature births. Cerebral palsy is often thought of as a condition that affects only children, but since child mortality from cerebral palsy has become a rare occurrence, almost every child with cerebral palsy will survive to adulthood. The effects of cerebral palsy do not worsen over time, but the condition does affect development through the adolescent and middle ages.

Mortality from cerebral palsy is predominantly from infancy and childbirth, but this can be attributed to children whose brain damage is quite severe and were highly disabled, having muscular paralysis affecting vital organs. In a UK study, it was found that 99% of adults with cerebral palsy and no severe impairment survived past age 30, and 95% with just one severe disability survived. Survival rate declined exponentially in children with additional disabilities. Just 78% of children with two disabilities were likely to reach adulthood, and only 59% with three disabilities survived. Only 33% of the few children with four disabilities survived to age 30. There is a lack of medical studies following cerebral palsy cases through development into adulthood, as the majority of the research being done is focused on infancy and early development. A UK study found adults with cerebral palsy not described as severe were more likely to die of respiratory diseases, but they were also less likely to die of injuries and accidents than the general population. There is a great deal of variance in the survival of cerebral palsy, since there is a great deal of variance in the severity people can be affected with. While some people can lead a normal life despite the condition, others can not even take basic care of themselves.

It is expected that the coming years will see an increase in adults with cerebral palsy, as the rate of children being diagnosed has not slowed much in the last dozen years, but the chances of a patient whose cerebral palsy has been described as severe surviving to advanced years has been steadily rising.