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Cerebral Palsy: A Complex Brain Disorder

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Cerebral palsy is a relatively common brain disorder found worldwide which occurs shortly before, during, or shortly after birth. The condition presents itself early in childhood, usually before three years of age, and involves voluntary muscle dysfunction. The degree of physical complication affecting each cerebral palsy child determines the courses of treatment initiated.

Separate physical complications are attributed to each different type of cerebral palsy. The three different groups of cerebral palsy patients, the antenatal, the natal, and the postnatal, and the recommended treatments will be discussed in this paper. The sub-classes involved within each of these groups consist of the spastic, athetoid, and the ataxic cerebral palsy child.

Due to the complexity of cerebral palsy, its treatment, and the varying degrees of severity, the psychological complications for the cerebral palsy patient and his family must also be noted.

STATISTICS AND CAUSES

There appears to be some disparity in the statistics reviewed on the occurence of cerebral palsy. The United Cerebral Palsy Association estimates that there are 600,000 people afflicted with this condition in the United States. Approximately one baby in every 170 newborns has cerebral palsy.[1] The National Paraplegic Foundation estimates that there are 750,000 individuals with cerebral palsy in the United States.[2] It has also been estimated that every year for each 100,000 in population, six children will be born with cerebral palsy.[3]

This figure disparity is obviously significant, however, even the lowest number estimated is sufficiently high to suggest that there is a large minority of cerebral palsy patients both in the United States and around the world.

Within this large group there exists three major classes of cerebral palsy patients. The antenatal (before birth) group consists primarily of the congenital type of cerebral palsy. Some of the causes of this disorder range from infectious disease, syphillis, inherited metabolic defects, and toxemia during pregnancy. The natal (during birth) group is the most frequent type of cerebral palsy, involving trauma at birth, hemorrhage, anoxia, heavy sedation of the mother, or hypoxia secondary to winding of the umbilical cord around the baby's neck. The postnatal group is from infectious and traumatic lesions such as encephalitis, meningitis, vascular accidents, and Rh incompatability occurring shortly after the birth.

Within these three separate categories of cerebral palsy are sub-classes of muscular dysfunction and conditions described as spastic cerebral palsy, the athetoid cerebral palsy, and the ataxic cerebral palsy.

SPASTIC CEREBRAL PALSY

In the spastic group of cerebral palsy children the most common symptoms are an awkward, irregular type of gait. Most of these victims are hemiplegic wherein the

cerebral palsy affects one side of the body involving both limbs. Other segments of the body may be afflicted, but are less common: monoplegia (one limb), diplegia (both lower limbs), and quadraplegia (all four limbs).

Of all the different types and complexities of cerebral palsy, approximately 60 percent of the cases fall into the spastic category. This lack of muscular control and balance makes the cerebral palsy individual stand out in a crowd. Therefore, sometimes orthotic assistance is sought to correct unsightly posture and gait.[4]

ATHETOID CEREBRAL PALSY

It is estimated that 20 percent of cerebral palsy patients are in this category. The characteristics of athetoid cerebral palsy are uncontrollable movement of the face and all four limbs. There is also difficulty with speech and swallowing. The individual usually attempts voluntary movement and cannot, which brings about emotional tension. This tension, however, is usually absent during sleep.

ATAXIC CEREBRAL PALSY

In the ataxic cerebral palsy patient, there is no spasticity, nor is there athetosis. The gait is unsteady and the appearance of falling is very noticeable. Basically, there is a disturbance of muscular coordination since the brain lesion is primarily cerebellar. The child's intelligence is usually not affected in these cases.

The complexities of cerebral palsy and its occurences are variable and the integration of the different types, sub-classes, and it causes are immeasurable. There are subdivisions within these major divisions of cerebral palsy which are not elaborated upon in this paper. These groups are "characterized by outstanding clinical manifestations," all dependent upon the location of the brain lesions.[5]

These physical complications all become part of the medical team treatment picture as the child progresses.

TREATMENT AND PSYCHOLOGICAL CONSIDERATIONS

Initially the cerebral palsy baby may appear normal and show no outward signs of disability. But usually by the age of three months some symptoms will begin to appear. The first step in any treatment situation should be the setting of realistic goals based upon the individual potential of the cerebral palsy child.

Since the lesion involvement can be mild to severe, the recommendations of the family physician usually consist of a multiple team treatment approach. The management of the cerebral palsy child is a family affair, but medical team members such as the rehabilitation physician, surgeon, therapists, psychologists, and orthotists play a major role as well. These professional people must have compassion, understanding, and a caring attitude in conjunction with realistic goals.

The mentality of approximately 75 percent of these individuals with cerebral palsy is well below average. Most of the mentally deficient cerebral palsy children are in the spastic quadraplegic group. Thus, knowledge of these immediate limitations helps the professional to assist the family in dealing with the non-institutionalized as well as the institutionalized cerebral palsy child during the early years.

A small percentage of the cerebral palsy children are able to function at home and school with somewhat minimal dysfunction. However, a larger percentage of these children require substantial assistance physically, emotionally, and psychologically. Again, the degree of muscular dysfunction depends upon the amount and severity of brain lesions. "No two patients have identical symptoms."[1] This complexity suggests careful psychological considerations.

As mentioned earlier, the parents of the cerebral palsy child are seldom aware of the problem with their child because the disorder can sometimes go undetected for several months.

Therefore, the parents, as well as the cerebral palsy child, need special psycho-

logical attention. They experience disappointment, guilt, and anxiety when the first signs of the brain disorder appear.

Some parents have great difficulty accepting the reality that their child will never be "normal." This is when the team treatment approach becomes essential.

The psychological needs of the cerebral palsy child are assessed depending upon the age of the child and the potential of mental development. Of course, the less severe the palsy is, the greater the chance for social competence and interaction.

Because the cerebral palsy individual's disability is visible, we frequently assume that they also suffer from some other unseen defects such as mental retardation, deafness, etc.[6]

However, this is an arguable fallacy in most instances of disabilities. Certain types of cerebral palsy children suffer a mental deficiency, yet often times they are comprehensive, teachable, and mentally functioning individuals with a physical disability.

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