Indicators of Life Expectancy of Children With Functional and Cognitive Impairments

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Evaluation of claims involving alleged hypoxic-ischemic injuries occurring during labor or delivery typically require an assessment of the child's anticipated life expectancy. This information is necessary to plan for the medical, educational and vocational needs of these children, as well as to calculate the potential economic damages.

Several studies have analyzed the survival rates of individuals with cerebral palsy or mental retardation. Cerebral palsy is defined as a chronic neuromuscular disability, characterized by abnormal control of movement or posture appearing early in life and not the result of recognized progressive disease. [7] The ACOG Task Force on neonatal encephalopathy and cerebral palsy concluded the causes of cerebral palsy include developmental malformations, metabolic defects, autoimmune and coagulation disorders, infections and hypoxia in the fetus and newborn. Cerebral palsy is often associated with other conditions such as mental retardation, epilepsy and loss of hearing and vision. [1]

A number of studies have documented relatively high mortality rates among specific groups of individuals with mental retardation and severe disabilities. Examples of variables found to be related to life expectancy include basic skills such as ambulation or mobility, method of feeding, bowel and bladder control and level of mental retardation. [3]

An 11-year follow-up study of 128,248 individuals who received services from the California Department of Developmental Services indicated that the following factors are associated with a very short life expectancy: immobility; an inability to roll over; limited arm-hand use; and an inability to self-feed. [3] Children in this subgroup who were younger than 1 year had a median survival of less than one additional year. Children who lived to age 1 year or older had higher survival rates, but survival was less than 11 years. [3]

All individuals evaluated in the foregoing study were considered to be profoundly mentally retarded or were suspected to be mentally retarded. The following characteristics were also assessed:

1. Mobility – Subjects were defined as immobile if they lacked the ability to walk, crawl, creep or scoot. Some subjects classified as immobile could be seated in a wheelchair with support.

2. Rolling – All subjects were evaluated on their ability to roll from side-to-side, from back-to-front and from front-to-back. An individual who could accomplish any voluntary rolling was designated as able to roll.

3. Hand Use – Each subject was evaluated in regard to functional use of the hands, e.g., the ability to grasp or make voluntary motion.

4. Arm Use – Individuals who could move their arms from their shoulders or extend their arms were distinguished from individuals who had no functional use of their arms.

5. Toileting Skills – Individuals who had some ability to take care of their toileting needs, e.g., were habit trained or could indicate a need to toilet, were considered to be in a toilet-trained category.

6. Feeding – Persons who had to be fed completely by others were classified as unable to feed themselves. Finger feeding was characterized as self-feeding.

Kudrajavcev, et al. studied 64 children with cerebral palsy up to the age of 10 years and concluded that only individuals with severe mental retardation were at an increased risk of dying. [2] When the cases were categorized according to severity of cerebral palsy and intelligence, the correlation between cerebral palsy severity and intellectual deficit was high; most children with severe cerebral palsy were severely retarded and most children with mild or moderate cerebral palsy were either intellectually intact or had mild-moderate retardation.

Also, the presence of epilepsy in individuals with cerebral palsy has been associated with an increased risk of death. [1, 6] Kudrajavcev, et al., found that 52% of children with severe or very severe cerebral palsy had epilepsy. Epilepsy was defined as two or more afebrile seizures occurring after 28 days of life. [2]

Reports from all recent studies of cerebral palsy life expectancy agree that survival is significantly poorer in those who have severe disability. [6, 1, 4] This is particularly true in individuals who have multiple disabilities. [6] The poor prognosis is principally related to: immobility, which increases the incidence of respiratory infection; feeding problems, which increase the risk of aspiration pneumonia; and severe mental retardation. Gastrostomy feeding, even with fundoplication, does not totally prevent aspiration and is a mortality risk. [3]

References

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