

Case Report of a Child with Developmental Delay

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Abstract

The cerebral palsies are a group of conditions due to non progressive damage to the brain before, during or after birth. There are many causes. Although the brain damage itself doesn't change nor is it curable, the symptoms may change with time. Classifications vary in different clinics and countries. usually there is the spastic, the athetoid and the ataxic type. The diagnostic classification may not play a direct role in the therapy plans. Diagnostic types are based on the predominant symptoms and there may be symptoms of the other types

Although the motor delay and dysfunctions are the main problems in the cerebral palsies there is the possibility of other handicaps. The brain damage itself can be diffuse enough to affect speech and hearing, vision, perceptual function, mental ability and general behaviour. Epilepsy may occur. There may also be other associated handicaps which are due to lack of motor experiences in physically disabled children. Lack of motor exploration affects development of sensation perceptions, mental abilities and speech, emotional and social skills are also hampered. Parent-Child interaction is not always easy and may create emotional problems.

Early therapy is advisable to minimize the degree of motor handicap and of the secondary development handicaps.

Key words

Cerebral Palsy, Developmental Therapy, Rapid Neurodevelopment Assessment

Introduction

Acquired brain injuries, such as hypoxic-ischemic lesions up to the age of three, are among the ten main causes of spastic hemiplegic cerebral palsy (CP). Although it does not severely impair functionality in children, hemiplegic motor impairment produces neuromotor alterations that cause precision deficits in movement performance and deficits in postural control, which is responsible for the stability and alignment between the body

segments during the performance of activities.

Thus, the rehabilitation of children with mild motor impairment of the hemiplegic type may prove to be especially challenging to therapists, requiring profound technical knowledge and creativity.

The progression of the therapy in these children is often compromised by the difficulty in finding tasks that motivate them, while at the same time showing therapeutic efficacy.

Developmental therapy allows the child with

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CASE REPORT

mild motor impairment and high levels of functionality to perform tasks close to those performed in their daily routine, facilitating the transposition of the motor learning generated during therapy and leading to measurable functional gains, increasing the social integration to the environment that surrounds them.

Case History

A 9 months old male child came to the Child development center of Apollo Hospitals Dhaka with complaints of unable to sit from lying positions and less interaction with surroundings. Child was delivered at full term by caesarean section with appropriate birth weight. Child was admitted in NICU up to his seven days of age due to peri natal asphyxia stage- II. There was history of delayed milestone and difficulties in deglutition of semi-solid food without drooling. On examination by Rapid neurodevelopmental assessment-Gross Motor: Couldn't sideline in right and left side from lying position, Fine Motor-No reaching and digital grasp with left and right hand, Vision- Only could fix and follow adults face, couldn't fix and follow spinning bright ball from 12.5cm. Hearing-Could locate voice at ear level with minimum sound. Speech- Only had vocalization (ghh, ooh, eeh), Cognition- He had no social smile.

Nervous system examination- Tone was increased in right side, Deep tendon reflexes were exaggerated on the right side.

EEG was suggestive of abnormal record due to presence of sharp transients over both anterior

temporal, posterior temporal and occipital regions. MRI of brain was advised.

Developmental Therapy (motor therapy, stimulation program, visual stimulation) is continue with regular follow up for 14 days interval and psychological assessment (BSID-III) is done. These assessment was carried out based on observation during administering BSID-III edition. Bayley Scales of Infant Development third Edition is a standardized psychometric test for measuring children's cognitive, receptive communication, expressive communication, fine motor, gross motor, socio emotional, and adaptive behaviour ability. Throughout this assessment we found his Cognitive domain: Significantly delayed intellectual functioning level, Language (receptive and expressive) domain: Significantly delayed, Motor (Fine and gross) domain: Significantly delayed.

After 4th follow up in 14 days interval Rapid Neurodevelopmental assessment was done whereas Gross Motor - could sit from lying without support, Fine Motor- could transfer object in both hands but radial digital grasp in right hand and digital grasp in left hand, Cognition- could shake rattle and had pat-a-cake. Vision - could fix and follow shiny bright object, Speech - babbling was started.

Discussion

The cerebral palsies are a group of conditions due to non-progressive damage to the brain before, during or after birth. Although the brain damage itself does not change nor is it curable, the symptoms may change with time. The brain

and nervous system are maturing in the presence of the damage and this cannot take place in a vacuum. The way the baby is handled and the attitudes that surround the baby influence how the maturation expresses itself in the subsequent child's and adult's ultimate function.

Although the motor delay and dysfunctions are the main problems in the cerebral palsies there is the possibility of other handicaps. The brain damage itself can be diffuse enough to affect speech and hearing, vision, perceptual function, mental ability and general behaviour. Epilepsy may occur. There may also be other associated handicaps which are due to lack of motor experiences in physically disabled children. Lack of motor exploration affects development of sensations, perceptions, mental abilities and speech. Emotional and social skills are also hampered. Patients-child's interaction is not always easy and may create emotional problems.

Early therapy is advisable to minimize the degree of motor handicap and of the secondary development handicaps.

There are still medical practitioners who hesitate about the referral of cerebral palsied babies for therapy. This may be due to the fact that some babies improve and even become normal without any treatment. Unfortunately we do not yet know definitely which neurologically damaged babies will become cerebral palsied and which will not. It is best to give each child the benefit of developmental therapy, and his parents practical guidance in his daily care, by a therapist who can also detect motor patterns of cerebral palsy. Every chance for the baby's damaged nervous system to develop is offered by early treatment of this kind. We know that

the human nervous system when damaged has powers of compensation. In addition, the baby and young child are still maturing and dormant abilities can be activated. In cerebral palsy there is a potential for abnormal patterns of movement and posture to become habitual and deformities can occur and become fixed. Prevention of deformities is possible to a large degree and often completely with early treatment. If deformities are allowed to develop, then secondary deformities may also be promoted in other parts of the child's body. This handicaps him even more.

Early treatment also decreases the associated handicaps which need specific therapy. The associated handicaps have also been known to become more severe than the motor problems. Handicaps interact with one another and the cerebral palsied child must be considered as a multiple handicapped child. Not all cerebral palsied children have multiple handicaps, but today there seem to be increasing numbers referred for therapy who are mentally and in multiple ways handicapped.

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CASE REPORT

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