Improving motor function of children with cerebral palsy: What is the rational of early intervention?

Cerebral palsy is the result of a non-progressive lesion or injury to developing brain and has multiple causes and clinical manifestations, making a discussion on diagnosis and screening challenging. In the past, the diagnosis of cerebral palsy was largely a clinical diagnosis, with the development of imaging it has been recommended that clinical diagnosis of cerebral palsy should be confirmed by imaging. Although difficult, early diagnosis is extremely important as it provides opportunity early intervention. Recently, there is a renewed interest in qualitative assessment of general movements in newborns. This cost effective diagnostic tool consists of observing the infant's spontaneous movements with promising results providing high specificity and sensitivity. Poor control of muscles and movement in children with cerebral palsy can be associated with a wide range of functional challenges. Traditional efforts to manage these motor disabilities have been directed to improving tone and promoting adequate motor patterns. Contemporary approaches to treatment are addressing muscle weakness as a common element of functional problems with encouraging results. Brain and muscle plasticity in response to specific types of therapy has been demonstrated in CP. The amazing developmental changes of the brain between preterm age and the age of 1 year post-term offers opportunities for early intervention. The goal of motor training is to optimize the development of skilled motor function. Fixed contractures are managed by lengthening of the muscle-tendon unit by the technique that delivers the safest and most effective surgical technique that gives appropriate amount of lengthening of the muscle for the child in question. Given that cerebral palsy presents at early in infancy and persists throughout an individual's lifetime, the disorder needs to be thought of and managed in the context of development, functioning with a family based and community integration.

Biography

Simone Battibugli is currently working as Pediatric Orthopedic Surgeon at The Children’s Medical Centre in Dubai. She has 10 years clinical and research experience as Faculty of Federal University of Sao Paulo. She has completed Pediatric Orthopedic Fellowship at Feinberg School of Medicine at Northwestern University, Children’s Hospital, Chicago, USA and also as a Pediatric Orthopedic Fellowship at Shriners Hospital for Children, Lexington, USA. Her interests are in (1) Evidence based medicine (2) Systematic literature review (3) Management and clinical research on neuromuscular disorders; as cerebral palsy, spina bifida and arthrogryposis multiplex congenital and (4) Congenital foot and lower limb deformities and other congenital and acquired musculoskeletal pathologies in children.

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