

CEREBRAL PALSY

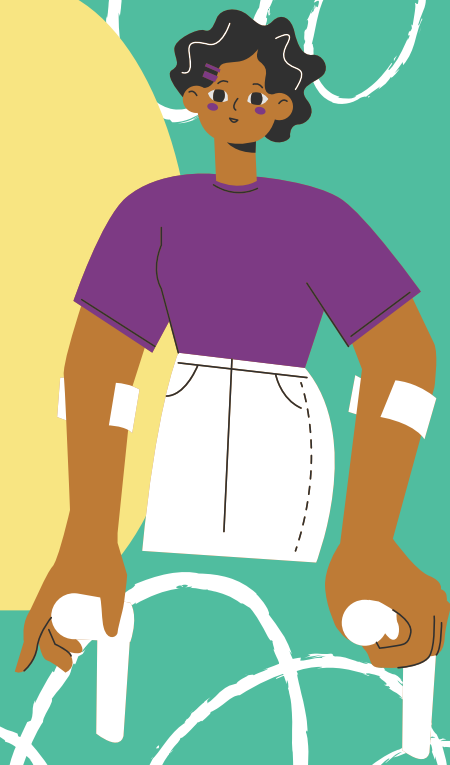


BACKGROUND

- Defined by The Centers for Disease Control and Prevention, Cerebral Palsy is a group of disorders that affects an individual's movement, posture and balance, due to an injury to the developing brain.
- Most common physical disability of childhood, occurring in 2 to 3 out of 1000 live births.

ETIOLOGY

- 92% cases traced to the perinatal period (the time frame from 1 year before to 18-24 months after the birth of the child)
- Risk factors include preterm birth, perinatal infection (chorioamnionitis - intra-amniotic infection), intrauterine growth restriction, use of preterm antibiotics before rupture of membranes, acidosis or asphyxia (reduced foetal movements and absence of foetal heart rate accelerations), and multiple gestation - any of which can lead to brain injury of the foetus.
- Less than 10% cases attributable to intrapartum hypoxia (very rare, foetus undergo anaerobic respiration)
- About 8% cases occur in an older age, often from head injury or infection.



CLINICAL FEATURES

- Poor balance and sensory deficits (hearing loss & blindness)
- Progression of scoliosis due to muscle spasm (involuntary contraction of muscle)
- Comorbidities that are not part of the core definition of cerebral palsy that also occur among patients: pain (75%), intellectual disability (50%), inability to walk (33%), hip displacement (33%), inability to speak (25%), epilepsy (25%), incontinence (25%), and behavioral or sleep disorders (20% to 25%).



DIAGNOSIS

- Clinical - Further classified based on the nature of the movement disorder: stiff muscles (spasticity), uncontrollable movements (dyskinesia), poor coordination (ataxia), or other/mixed.
- Spasticity is the most common movement disorder, affecting 80% of the children with cerebral palsy.
- Now that MRI can identify brain injury, diagnosis can be made as early as 6 months of age.



TREATMENT

- By five years of age, most children with cerebral palsy have about 90% of their eventual total motor development, even with aggressive and ongoing therapy.
- Treatment of spasticity - correcting spasticity-induced bone and joint deformation, controlling pain and maintaining function.
- Prevention: Although magnesium sulfate (MgSO₄) is not the standard initial treatment for premature labor, it has been shown to reduce the risk of cerebral palsy from 6.7% to 4.7%

References:

Vitrikas K, Dalton H, Breish D. Cerebral Palsy: An Overview. Am Fam Physician. 2020 Feb 15;101(4):213-220. PMID: 32053326.