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ROLE OF MAGNETIC RESONANCE IMAGING IN CHILDREN WITH CEREBRAL PALSY

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One hundred and fifty children upto 14 years of age (mean 2.3years) with cerebral palsy (CP) were studied. Of these 43 were born preterm (<37wks.) and males were 73.3%. The majority of children had spasticity (76%). The types of CP were significantly different between the preterm and term groups. ($p \leq 0.01$) Among the preterms spastic diplegia (18) was the major subtype whereas in the term group the majority was of spastic quadriplegic variety. All the spastic hemiplegics were born at term. The associated problems were microcephaly (74.67%), seizures (35.3%), mental retardation (60%) and visual problems (49.5%) and these were similar in both groups. Magnetic resonance imaging (MRI) was done in all cases of which 134 revealed abnormalities. In patients who were born preterm MRI revealed periventricular leukomalacia (33) and abnormalities in corpus callosum (13) which were significantly more than in the term group. ($p \leq 0.01$) In term babies the findings were more heterogenous; cortical atrophy (15), neuronal migration defect (8), encephalomalacia (3), porencephaly (3), infarcts (5), basal ganglia hyperintensities (9) and cerebellar hypoplasia (2). Combined with the clinical histories MRI could define the time of insult in 94.6% cases. The insult to the brain occurred prenatally in 36, perinatally in 69 and postnatally in 37 cases. 75% of those who had a postnatal insult were born at term. Magnetic resonance imaging provides useful information in majority of children with cerebral palsy and in conjunction with clinical assessment helps to specify more precisely the etiology and timing of the brain insult.