Primitive reflexes in very low birth weight infants later diagnosed with autism spectrum disorder

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Abstract

Background: As early screening and diagnosis is very important in treatment and intervention of Autism Spectrum Disorder, we investigated the relationship between primitive reflexes and Autism Spectrum Disorder (ASD).

Methods: Of 88 very low birth weight infants (<1500g) born from April 2010 to March 2012, subjects comprised 38 examined for 18 primitive reflexes between age 38 and 45 wks corrected age and followed-up over 6 yrs. ASD was diagnosed using Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5) and Autism Diagnostic Observation Schedule Second Edition (ADOS-2). We compared the number of abnormal primitive reflexes between two groups (11 children with and 19 without ASD) after excluding eight children with cerebral palsy in this case-control study.

Results: Twenty cases showed one to four hypoactive reflex(es) and two showed one hyperactive reflex together with hypoactive reflex(es). Ten out of 11 cases with ASD had one to four abnormal reflex(es). The number of abnormal hypoactive primitive reflexes was significantly higher in the ASD group (p=0.002).

Conclusions: The result suggests primitive reflexes can be one of the key elements in very early infancy to identify ASD in low birth weight infants. Abnormal hypoactive primitive reflex of low birth weight infants with ASD may inform future research of the pathogenesis of ASD.