Quantitative Evaluation System of Soft Neurological Signs for Children with Attention Deficit Hyperactivity Disorder.

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Abstract
Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by symptoms of inattention, hyperactivity, and impulsivity. Soft neurological signs (SNS) are minor neurological abnormalities in motor performance, and are used as one evaluation method for neurodevelopmental delays in children with ADHD. Our aim is to establish a quantitative evaluation system for children with ADHD. We focused on the arm movement called pronation and supination, which is one such soft neurological sign. Thirty three children with ADHD aged 7-11 years (27 males, six females) and twenty five adults participants aged 21-29 years old (19 males, six females) participated in our experiments. Our results suggested that the pronation and supination function in children with ADHD has a tendency to lag behind that of typically developing children by several years. From these results, our system has a possibility to objectively evaluate the neurodevelopmental delay of children with ADHD.