Attention-Related Eye Vergence Measured in Children with Attention Deficit Hyperactivity Disorder.

Solé Puig M, Pérez Zapata I, Puigcerver I, Esperalba Iglesias N, Sanchez Garcia C, Romeo A, Cañete Crespillo J, Supèr H.


Abstract

Recent evidence shows a novel role for eye vergence in orienting attention in adult subjects. Here we investigated whether such modulation in eye vergence by attention is present in children and whether it is altered in children with ADHD compared to control subjects. We therefore measured the angle of eye vergence in children previously diagnosed with ADHD while performing a cue task and compared the results to those from age-matched controls. We observed a strong modulation in the angle of vergence in the control group and a weak modulation in the ADHD group. In addition, in the control group the modulation in eye vergence was different between the informative cue and uninformative cue condition. This difference was less noticeable in the ADHD group. Our study supports the observation of deficient binocular vision in ADHD children. We argue that the observed disruption in vergence modulation in ADHD children is manifest of altered cognitive processing of sensory information. Our work may provide new insights into attention disorders, like ADHD.