An Examination of Blood Cell Membrane Potential as a Diagnostic Test of Attention Deficit Disorder in Children.

Stepanova E, Findling RL, Kaplin D, Frimpong B, Pikalova S, Young AS.

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Abstract

OBJECTIVE:
To reexamine previous findings that reported that blood cells' membrane potential ratios (MPRs™) differ between youth with ADHD and controls and to determine whether psychostimulants affect MPRs™.

METHOD:
Forty-four youth (ages 6-17) with ADHD (not currently taking psychostimulants; n = 24) and controls (n = 20) completed the Mini-International Neuropsychiatric Interview 7 (MINI 7) and a blood draw to determine MPR™. Youth with ADHD provided another blood draw 30 days after receiving psychostimulants.

RESULTS:
MPR™ values of participants with ADHD who were not taking stimulants were not significantly different from those of the controls. MPR's™ sensitivity was 79.2% and specificity 25.0%. Among youth with ADHD, there was a trending association between lower MPRs™ and taking stimulants (compared with baseline).

CONCLUSION:
Results neither replicate prior findings nor support MPRs™ utility in diagnosing ADHD in youth. We identified possible MPR™ changes after participants with ADHD began stimulants. Further studies are needed to establish the clinical significance of this finding.