Increased Beta Activity Links to Impaired Emotional Control in ADHD Adults with High IQ

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Abstract

Objective:
The present study investigated the neuropathology of everyday-life executive function (EF) deficits in adults with ADHD with high IQ.

Method:
Forty adults with ADHD with an IQ ≥ 120 and 40 controls were recruited. Ecological EFs were measured, and eyes-closed Electroencephalograph (EEG) signals were recorded during a resting-state condition; EEG power and correlations with impaired EFs were analyzed.

Results:
Compared with controls, the ADHD group showed higher scores on all clusters of EF. The ADHD group showed globally increased theta, globally decreased alpha, and increased central beta activity. In the ADHD group, central beta power was significantly related to emotional control ratings, while no such correlation was evident in the control group.

Conclusion:
The results suggest that resting-state beta activity might be involved in the neuropathology of emotional control in adults with ADHD with high IQ.