BDNF Val66Met polymorphism and peripheral protein levels in pediatric bipolar disorder and attention-deficit/hyperactivity disorder


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Objective
Frontiers between pediatric bipolar disorder (PBD) and attention-deficit/hyperactivity disorder (ADHD) are not well defined. Few studies have addressed potentially different neurobiological factors between the two disorders. Brain-derived neurotrophic factor (BDNF) has been increasingly recognized for its etiologic and prognostic role in adult bipolar disorder (BD) studies. This study aimed to examine the BDNF gene polymorphism and potential alterations in BDNF serum levels in the pediatric ADHD patients with or without comorbid BD illness.

Method
We assessed the non-synonymous single-nucleotide polymorphism in the BDNF gene (rs6265/Val66Met) and its serum levels in children and adolescents with BD comorbid with ADHD (BD + ADHD) and ADHD alone. Children and adolescents were assessed for psychiatric diagnoses using the Kiddie-Sads-Present and Lifetime Version (K-SADS-PL).

Results
Using Analysis of covariance (ancova) we detected a significant group effect (patients with BD + ADHD had higher serum levels than those with ADHD – F80,3 = 8.73, P = 0.005).

Conclusion
Although the Val66Met polymorphism at the BDNF gene does not seem to play a significant role in children and adolescents with BD or ADHD, BDNF serum levels deserve further attention in future research on neurobiological aspects of BD and ADHD.