Differential neuropsychological functioning between adolescents with attention-deficit/hyperactivity disorder with and without conduct disorder.

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Abstract

BACKGROUND/PURPOSE:
This study aimed to evaluate neuropsychological functioning of attention-deficit/hyperactivity disorder (ADHD) with and without comorbidities of oppositional defiant disorder (ODD) and/or conduct disorder (CD) and the mediation effects of the neuropsychological functions in the relationship between ADHD and ODD/CD symptoms to increase our understanding of these frequently co-occurring disorders.

METHODS:
Adolescents aged 11-18 years were interviewed by the Kiddie epidemiologic version of the Schedule for Affective Disorders and Schizophrenia to confirm their previous and current ADHD status and other psychiatric diagnoses. The performance of the Cambridge Neuropsychological Testing Automated Battery was compared among four groups: (1) ADHD with CD (ADHD+CD), regardless of ODD; (2) ADHD with ODD (ADHD+ODD) without CD; (3) ADHD without ODD/CD (ADHD-only); and (4) typically developing controls. Mediation effects of neuropsychological functioning were tested.

RESULTS:
All three ADHD groups had impaired spatial working memory and short-term memory. Deficits in verbal memory and response inhibition were found in ADHD+ODD, but not in ADHD-only. ADHD+CD did not differ from typically developing controls in verbal working memory, signal detectability, and response inhibition. Spatial working memory partially mediated the association between ADHD and CD symptoms and alerting/signal detectability of arousal partially mediated the association between ADHD and ODD symptoms.

CONCLUSION:
There were both common and distinct neuropsychological deficits between adolescents with ADHD who developed ODD only and who developed CD. ADHD comorbid with CD may be a different disease entity and needs different treatment strategies in addition to treating ADHD, while ADHD+ODD may be a severe form of ADHD and warrants intensive treatment for ADHD symptoms.