Attention Deficit Hyperactivity Disorder Symptoms and Psychosis in 22q11.2 Deletion Syndrome

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Abstract

Objective:
22q11.2 Deletion Syndrome (22q11.2DS) is associated with increased risk for schizophrenia in adulthood while Attention Deficit Hyperactivity Disorder (ADHD) is the most prevalent diagnosis in childhood. Inattention symptoms are pronounced in 22q11.2DS and given that attentional impairment is a core feature of schizophrenia, inattention symptoms may reflect underlying ADHD, psychosis, or both. We investigate whether inattention is associated with psychosis in 22q11.2DS and in other groups at risk for psychosis but without the deletion (ND) (idiopathic clinical risk and first degree family members of individuals with schizophrenia).

Methods:
One hundred thirty-seven individuals with 22q11.2DS (mean age: 14.0), 84 ND individuals with subthreshold psychosis (mean age: 16.9) and 31 ND individuals with family history of psychosis (mean age: 17.0) were included in the study. Psychopathology was assessed using research diagnostic assessments.

Results:
ADHD total symptoms were associated with overall levels of subthreshold psychosis symptoms in 22q11.2DS ($\beta = .8$, $P = .04$). Inattention symptoms were specifically associated with positive ($\beta = .5$, $P = .004$), negative ($\beta = .5$, $P = .03$), and disorganized ($\beta = .5$, $P < .001$) symptoms, while hyperactivity-impulsivity symptoms were associated with disorganized symptoms ($\beta = .5$, $P = .01$). The prevalence of ADHD inattention symptoms was higher in 22q11.2DS with subthreshold psychosis compared to ND individuals with subthreshold psychosis ($P < .001$), even when adjusting for cognitive impairment and overall psychopathology. The pattern was similar when comparing individuals with 22q11.2DS and ND individuals with family history of psychosis.

Conclusions:
This is the first study to examine the associations between ADHD symptoms and psychosis in 22q11.2DS. Our findings support a potentially important role of ADHD inattention symptoms in psychosis in 22q11.2DS.