Overlap between Attention Deficit Hyperactivity disorder and Autism Spectrum Disorders: new perspectives

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Autism Spectrum Disorders (ASD) and Attention-Deficit / Hyperactivity Disorders (ADHD) are neuropsychiatric developmental disorders that frequently co-occur (Rommelse et al., 2010). The frequent comorbidity of both disorders is likely due to substantial overlap in genetic factors, cognitive dysfunctions, and functional and structural brain characteristics between ASD and ADHD (Rommelse et al., 2011). Both disorders are also hypothesized to share a common precursor, i.e. early deficits in executive attention (Johnson et al., 2015; Visser et al. 2016). In this lecture, I will review the evidence for shared and unique genetic, cognitive and neural factors that are involved in ASD and ADHD and will argue that ADHD and ASD may be both manifestations of one overarching neurodevelopmental disorder. Among others, I will review and contrast the structural MRI correlates of ADHD and ASD as reported by the respective ENIGMA working groups, present the results of a causal discovery analysis (Sokolova et al. 2017), and put the ASD and ADHD overlap within a life-span perspective (Hartman et al. 2016; Rommelse et al. 2017)

The last part of the lecture will discuss clinical implications of this view and outline further approaches for research, including interventions and prevention.

References


Hartman CA, Geurts HM, Franke B, Buitelaar JK, Rommelse NNJ. Changing ASD-ADHD
symptom co-occurrence across the lifespan with adolescence as crucial time window: Illustrating the need to go beyond childhood. Neurosci Biobehav Rev. 2016 Dec;71:529-541.


