P-798 - FUNCTIONAL CONNECTIVITY OF MOTOR CONTROL IN ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) AND PEDIATRIC BIPOLAR DISORDER (PBD) WITH AND WITHOUT ADHD

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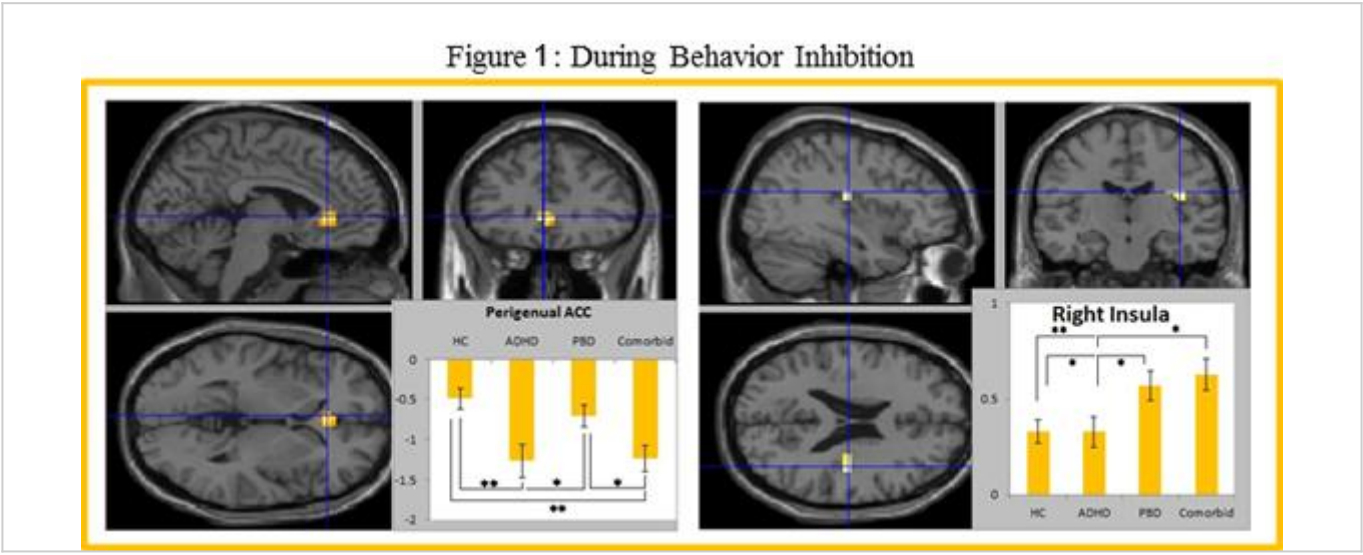
Introduction: ADHD and PBD are two developmental syndromes with high comorbidity rates and common symptoms of inattention, impulsivity and hyperactivity.
Objectives: Mechanistic comprehension of neural circuitry function will enhance our understanding of the dimensional functions of affect and cognition, and guide rational pharmacological treatment for ADHD and PBD.
Aims: The aim of this research is to further examine the neural bases of impulsivity in distributed brain networks engaged during execution or inhibition of a pre-potent motor response in adolescents with PBD and ADHD relative to healthy controls (HC).
Methods: 31 adolescents with PBD, 24 PBD/ADHD, 22 ADHD and 33 HC (mean age 13.78 ± 2.4), underwent fMRI stop signal task, examining the ability to inhibit a prepotent motor response.
Results: Relative to HC, ADHD showed greater connectivity in bilateral cerebellum and decreased connectivity in left precuneus and subgenual ACC (Figure 1, Panel A).
The PBD/ADHD group's functional connectivity was reduced in limbic regions relative to the other three groups, while it was increased in right insula relative to ADHD (Figure 1, Panel B).
Conclusions: Findings suggest that within an attentional control network relative to HC, both PBD and ADHD groups exhibit greater functional connectivity in right VLPFC. The PBD/ADHD group showed more severe PBD-like pattern of over-engagement in emotional regions, and a less severe ADHD-like pattern in posterior attentional regions.



[Figure 1: During Behavior Inhibition]