***Neurocognitive Markers of Depression in Youth***

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**Background** Adolescents with major depressive disorder (MDD) were found to have deficits in executive functioning, attention, and memory. Three studies were conducted to further explore neurocognitive markers of depression in youth. In the first study, we examined changes in neurocognitive functioning in adolescents with depression during an acute treatment course with selective serotonin reuptake inhibitor. In the second study, neurocognitive predictors of treatment response at week 6 and 12 were examined. The effects of neutral and emotional facial expressions on voluntary attentional control using the Emotional Face n-back (EFNBACK) task in adolescents with MDD were explored in study three. **Methods** In study 1 and 2, adolescents with current MDD and healthy controls (HCs) were administered subtests of the Cambridge Neuropsychological Test Automated Battery as well as clinical scales at baseline and were retested at weeks 6 and 12. Those with MDD were started on fluoxetine after the baseline assessment. In study 3, we administered the EFNBACK task, a visual working memory task with neutral, happy and angry faces as distractors to adolescents with MDD and HCs. **Results** Study 1 revealed a persistent deficit in visual memory in the MDD group over time compared with HCs, as well as a residual sustained attention deficit. Similarly, on an executive function task, MDD performance did not significantly change over time. Study 2 revealed high impulsivity at baseline as a predictor of low treatment response at both week 6 and 12. Group comparisons in study 3 showed that MDD youth were less accurate on neutral trials than HCs but no different on angry, happy or blank trials. **Conclusion** When treating depressed adolescents, clinicians need to monitor cognitive symptoms as they appear to lag behind mood symptoms in improvement. Additionally, cognitive dysfunctions represent a core component in MDD and serve as useful predictors of treatment outcome.