In This Issue

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A brief summary of the articles appearing in this issue of *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*.

Meta-analysis of Thalamocortical Dysconnectivity in Psychosis

Thalamocortical dysconnectivity has been linked to psychotic disorders. Using an activation likelihood estimate approach, **Ramsay** (pages 859–869) conducted a meta-analysis of seed-based thalamocortical connectivity in patients with schizophrenia or bipolar disorder and in persons at clinical high risk for psychosis, compared with healthy subjects. Findings revealed thalamocortical hyperconnectivity in prefrontal and thalamic regions, and hypoconnectivity in sensory regions. These networks were negatively correlated, suggesting that they may arise from a common mechanism and may represent a biomarker and treatment target for psychotic disorders.

Multimodal Imaging of Cognitive Control in Psychosis

Psychosis is associated with impairments in regulation of goal-directed behavior (i.e., cognitive control). However, studies of neural alterations related to this impairment tend to use a single imaging modality and examine a single psychotic disorder. Here, **Lerman-Sinkoff *et al.*** (pages 870–880) used multimodal structural, resting-state, and task-based neuroimaging to examine alterations in cognitive control in individuals with schizophrenia, schizoaffective disorder, and bipolar disorder. Analyses identified a set of interrelated patterns across imaging modalities partially predictive of cognitive control performance, providing some evidence that shared symptomatology may be key to transdiagnostic conceptualizations of psychosis.

Dynamic Neuroimaging Measures in 22q11.2 Deletion Syndrome

Most work in the search for neuroimaging biomarkers of psychosis has focused on static connectivity, but dynamic approaches may be more reliable. Here, **Zöller *et al.*** (pages 881–892) used innovation-driven coactivation patterns to investigate resting-state brain dynamics in patients with 22q11.2 deletion syndrome, a population at high risk for schizophrenia, and healthy subjects. The authors identified patterns of aberrant brain dynamics specific to prodromal psychotic symptoms and anxiety, two clinical risk factors for psychosis in 22q11.2 deletion syndrome. These data provide support for the potential of dynamic brain function as an imaging marker for psychosis vulnerability.

Stress and Reward: Bidirectional Associations

Aberrations in both reward processing and stress reactivity are associated with increased risk for multiple psychiatric disorders, but the relationship between these factors has remained unclear. In this longitudinal study of typically developing children, **Vidal-Ribas *et al.*** (pages 893–901) show that previous stress exposure is associated with impaired neural reward processing in the basal ganglia, replicating previous findings. In addition, the authors show that impaired reward processing in prefrontal regions predicted increased stress reactivity to an experimental lab stress paradigm 3 years later. These findings support a bidirectional association between stress and reward processing and may help lead to an improved understanding of early risk factors for depression and other stress-related disorders.

Conflict Detection and Suicide

Suicide rates have increased markedly despite decades of research, underscoring the need to better understand the factors that may differentiate those who engage in suicidal ideation from those who will progress to a suicide attempt (SA). Using event-related potentials in suicidal ideators with and without a history of SA, **Albanese *et al.*** (pages 902–912) investigated disruptions in specific facets of inhibitory control (N2 and P3a). Compared with individuals with no SA history, individuals with an SA history were impaired in their ability to detect the need to inhibit responses, but not in their ability to actually inhibit those responses. These data indicate that impairments in inhibitory control may play an important role in the transition from suicidal ideation to a suicide attempt.

White Matter Indices of Antidepressant Response

Antidepressant treatment response cannot currently be predicted, leading to increased illness duration for individuals who do not respond to a prescribed therapy. Using diffusion tensor imaging, **Davis *et al.*** (pages 913–924) examined white matter in control participants and participants with major depressive disorder. In the depressed cohort, response was assessed after 8 weeks of treatment with a selective serotonin reuptake inhibitor. Baseline differences in the external capsule, cingulum, sagittal stratum, and corona radiata distinguished responders from nonresponders. These data indicate that white matter microstructure may aid prediction of therapeutic response and should be investigated further.

Adolescent Mothers and Infant Neurodevelopment

Adolescent motherhood is associated with risk factors that negatively impact offspring neurodevelopment. Here, **Shephard *et al.*** (pages 925–934) examined the effects of maternal psychopathology (depression, anxiety, and attention-deficit/hyperactivity disorder) and education level on early brain and cognitive development in infants of adolescent mothers living in poverty. The authors report that higher maternal psychopathology and lower education were associated with increased electroencephalographic brain activity and decreased functional connectivity in infants, the latter of which was also associated with poorer infant cognitive ability. These data suggest that adverse effects on infant development may be prevented or reduced by addressing psychopathology and educational opportunities for adolescent mothers in impoverished countries.

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