Schizophrenia Cerebral Bioenergetic Abnormalities

Using $^{31}$P magnetization transfer magnetic resonance spectroscopy, which allows the quantification of the flow of high-energy phosphate molecules through enzymatic reactions, Du et al explored bioenergetic abnormalities in schizophrenia. There was a statistically significant 22% reduction in the creatine kinase reaction rate in the frontal lobe in patients with chronic schizophrenia. In addition, the pH was reduced, consistent with a shift toward glycolysis and buildup of lactic acid.

Impaired Sensory Prediction in Schizophrenia

Shergill et al demonstrated dysfunctional activation within the somatosensory cortex of patients with schizophrenia during a sensory-motor prediction task examining predictive models using functional magnetic resonance imaging. The extent of the somatosensory tactile attenuation in these patients was inversely correlated with the severity of the patient’s hallucinatory experiences.

Depressive Symptoms Around Natural Menopause

Freeman et al evaluated risks of depressive symptoms relative to the final menstrual period (FMP) in a 14-year follow-up of 203 late-reproductive-age women. Risks of high depressive symptoms were greater before the FMP and lower after the FMP. Women with a history of depression had a 13 times greater risk compared with women with no depression history. Women who first experienced high depressive symptoms in the menopause transition had a low risk of depression after the second year postmenopause.

Traumatic Stress and Weight Status

Kubzansky et al examined whether posttraumatic stress disorder (PTSD) symptoms are associated with increased risk of weight gain using prospective data from the Nurses’ Health Study. Women with more PTSD symptoms had more rapid weight gain over the follow-up period relative to those with fewer symptoms. Comparing patterns before and after PTSD onset indicated that greater weight gain occurred after symptom onset, with women with the most symptoms at highest risk for overweight or obesity.
Recall of Life Events in Conversion Disorder

By studying the recall of traumatic events in patients with (hysterical) sensorimotor conversion disorder symptoms with functional magnetic resonance imaging, Aybek et al found abnormal activations in the supplementary motor area and temporoparietal junction, suggesting that the Freudian concept of “conversion” might have neural correlates. Repressing the unwanted memory of the traumatic event coactivates the supplementary motor area and temporoparietal junction regions, thought to be important in producing the physical symptoms of conversion disorder.

Cocaine Addiction

Moeller et al investigated brain functional connectivity in individuals addicted to cocaine in a placebo-controlled, crossover study of a single dose of the indirect dopamine agonist methylphenidate. Methylphenidate modulated brain connectivity in circuits relevant to the pathophysiology of addiction and habit formation, such that the drug reduced connectivity between the ventral and dorsal striatum, a connection that was associated with the severity of addiction. Methylphenidate also strengthened several connections relevant to emotion regulation and inhibitory control.

Reward Circuitry Function in Dysregulated Youth

Bebko et al report a positive association between pathological dimensions (anxiety and behavioral and emotional dysregulation) and reward-related neural activity in behaviorally and emotionally dysregulated youth from the Longitudinal Assessment of Manic Symptoms study. Their findings support a dimensional approach to studying neural mechanisms in behaviorally and mood dysregulated youth.

National Trends in Mental Health Care

Olfson et al report that mental health care has increased faster in young people than adults. Office-based visits with a mental disorder diagnosis per 100 population increased (1995-1998 to 2007-2010) from 7.78 to 15.30 for youth and from 23.23 to 28.48 for adults while psychiatrist visits increased from 2.86 to 5.71 for youth and 10.22 to 10.87 for adults. Because psychiatrists deliver a minority of mental health visits, consultations with nonpsychiatrist physicians will remain vital.