**Research**

**Benzoate for Schizophrenia**

Lane and colleagues demonstrate that sodium benzoate, as an α-amino acid oxidase inhibitor, can substantially improve the symptoms and neurocognition of schizophrenia, presumably by improving N-methyl-D-aspartate function by raising D-serine levels. By inhibiting the catabolic enzyme, the treatment is analogous to monoamine oxidase inhibitors, which upregulate monoamine for central nervous system disorders.

**Boundaries of Schizoaffective Disorder**

Kotov and colleagues examined the natural boundaries among psychotic disorders by evaluating associations between symptom course and long-term outcome in a sample of 413 first-admission patients with psychosis followed up for 10 years. A sharp distinction between psychotic mood disorders and schizophrenia was observed, but no boundary was found between schizoaffective disorder and schizophrenia.

**Violent Behavior During First-Episode Psychosis**

Winsper and colleagues explored whether pathways to violent behavior during first-episode psychosis varied as a function of premorbid delinquent behavior. They found that high, stable levels of premorbid delinquency increased the risk of violence following service contact, independently of psychosis-related risk factors. Conversely, the association between moderate levels of premorbid delinquency and violent behavior was partially mediated by positive symptoms.

**Hippocampal Glutamate and Volumetric Deficits**

Kraguljac and colleagues used proton magnetic resonance spectroscopy to measure Glx (a combination of glutamate and glutamine) in vivo in the hippocampus of unmedicated patients with acute psychosis and schizophrenia. In addition to elevated Glx levels in patients compared with controls, they also report a relationship between the extent of Glx abnormalities and hippocampal volumetric deficits, suggesting that glutamate abnormalities potentially account for structural deficits observed in the disorder.

**Risk Genes for Bipolar Disorder**

Dima and colleagues examined the biological relevance of the CACNA1C rs1006737 and ANK3 rs10994336 single-nucleotide polymorphisms associated with bipolar disorder. In patients with bipolar disorder, both risk variants exacerbated the disease-related dysfunction in ventral prefrontal cortical activation and visual-prefrontal effective connectivity during facial affect processing. These findings implicate molecular and cellular pathways involved in ion channel signaling in the etiology of bipolar disorder.

**Depression During Pregnancy and Postnatal Period**

Pearson and colleagues used data from more than 4500 adolescents, whose mothers had been recruited during pregnancy, to investigate the associations between maternal depression during the antenatal and postnatal periods and offspring depression at age 18 years. Antenatal depression was associated with offspring depression independently of later maternal depression and sociodemographic variables, while postnatal depression was only a risk factor in offspring whose mothers had lower education levels.
Brainstem Aminergic Nuclei and Depressive Symptoms

Wilson and colleagues conducted neuropathologic examinations of brain stem aminergic nuclei in 124 older persons without dementia from the Rush Memory and Aging Project. The presence of Lewy bodies and neurofibrillary tangles was associated with depressive symptoms, and the loss of tyrosine hydroxylase–positive neurons in the ventral tegmental area (but not in the locus coeruleus) robustly correlated with the severity of depressive symptoms.

Attention and Affective Changes in Adult ADHD

McCarthy and colleagues used resting-state functional magnetic resonance imaging to compare functional connectivity differences between adults diagnosed with attention-deficit/hyperactivity disorder (ADHD) in childhood and controls in 5 ADHD-related neural networks. Compared with controls, adults with ADHD displayed functional connectivity differences related to persistent inattention, disturbance in cognitive control, and emotional dysregulation, prevalent in adults with ADHD. Lower resting-state functional connectivity in the ventral and dorsal attention networks were significantly correlated with higher ADHD symptoms.

Topiramate for the Treatment of Cocaine Addiction

Johnson and colleagues carried out a double-blind, randomized, placebo-controlled, 12-week trial of topiramate that included 142 male and female cocaine-dependent individuals and found that topiramate, a γ-aminobutyric acid/glutamate modulator, was significantly more efficacious during weeks 6 to 12 (the efficacy period) at increasing the weekly proportion of cocaine nonuse days and the likelihood of urinary cocaine-free weeks, decreasing craving, and improving global functioning.

Buprenorphine Tapering Duration in Opioid Abusers

Sigmon and colleagues conducted a randomized, double-blind trial evaluating the relative efficacy of 1-, 2-, and 4-week buprenorphine detoxification and subsequent naltrexone maintenance for primary prescription opioid abusers. The 4-week taper produced superior outcomes over briefer durations, as evidenced by significantly greater rates of opioid abstinence, treatment retention, and naltrexone ingestion. These results suggest that a subset of prescription opioid abusers may respond favorably to a treatment involving buprenorphine detoxification, naltrexone, and behavior therapy.

Access to Treatment for Substance Use Disorder

Wen and colleagues examined the effect of state parity laws for substance use disorder (SUD) treatment on the state-aggregate SUD treatment rates from 2000 to 2008. They found that the implementation of an SUD parity law increased the treatment rate in specialty SUD facilities by 9%. The positive effect was more pronounced in states with more comprehensive parity laws. Findings suggest that federal parity legislation holds the potential to improve access to SUD treatment.

Addressing Risks to Advance Mental Health Research

Based on a literature review and a National Institutes of Health–funded scientific meeting, Iltis and colleagues offer expert panel recommendations on how mental health researchers can effectively identify and ethically justify various research risks, communicate these risks to others (eg, potential participants, regulatory bodies, and society), and manage these risks across the life of a study.

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