Research

rTMS vs Sham in Depressed Male Veterans 884

Major depressive disorder is the most disabling mental health condition worldwide, yet as many as 20% of individuals fail to respond to standard medication interventions. In this double-blind sham-controlled trial using repetitive transcranial magnetic stimulation of treatment-resistant depressed veterans, Yesavage and colleagues show that the overall remission rate was approximately 40% but not different between the active and sham groups. In an accompanying Editorial, Nemeroff points out that sham treatment may have significant active effects, which makes it difficult to separate active and sham groups.

Population Density and Genetic Risk for Schizophrenia 901

Schizophrenia is more common in urban areas, but the reason is not clear. Colodro-Conde and colleagues examined 4 large samples of genotyped European ancestry adult individuals and found that people living in more densely populated areas had significantly higher polygenic risk scores for schizophrenia in each cohort, accounting for 1.7% of schizophrenia risk. These findings indicate that the social stress model for schizophrenia should be refined to include genetics as well as environmental factors. In an Editorial, Jongsma and Jones discuss the implications for the field.

Youths Born After Folate Fortification and Psychosis Risk 918

Folate plays an important role in the development of the central nervous system, and supplementation has increased blood levels in women of childbearing age. Eryilmaz and colleagues examined 292 youths with clinical magnetic resonance imaging scans and showed delayed age-related thinning of the cerebral cortex, suggesting reduced risk for severe mental illness in individuals who gestated during and after the US fortification rollout. In an Editorial, Paus emphasizes the complexities of the "at-risk" status.

Cognitive Changes in Youths at Ultrahigh Risk for Psychosis 929

Cognitive deficits are a key feature of risk for psychosis, but the course of these problems is not well understood. Lam and colleagues studied 384 healthy and 173 ultrahigh-risk young people from Singapore and found that at-risk individuals exhibited significantly abnormal longitudinal trajectories of general cognitive function, which partially accounted for problems in social and occupational functioning; those whose at-risk status remitted also recovered cognitively. Harvey discusses the significance of these results in an accompanying Editorial.

Neuroanatomical Maturation and Psychosis in At-Risk Youth 960

Altered neurodevelopmental trajectories are implicated in the emergence of schizophrenia but neuroanatomical markers have not previously been associated with future psychosis risk. Chung and colleagues used machine learning to analyze data from the NAPLS study and found a significantly greater gap between chronological age and age predicted using normal brain development models in 275 clinical high-risk individuals compared with 109 healthy people; this gap was greatest in younger at-risk individuals. These results indicate that neuroanatomical maturation trajectories differ in those at risk for schizophrenia.