In This Issue

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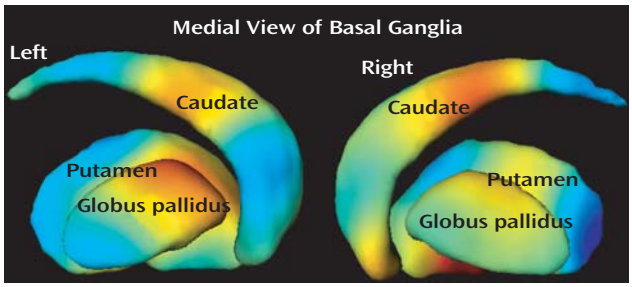

Warm colors denote compressed regions in boys with ADHD, and cool colors depict expanded regions (Qiu et al., p. 74)

Better Brain Maps for ADHD

The brain structure and functioning associated with psychiatric disorders in children and adolescents are particularly important because of possible effects on neurodevelopment. Three new studies clarify brain pathology in attention deficit hyperactivity disorder (ADHD). Shaw et al. (CME, p. 58) measured change over time in the thickness of the cerebral cortex in medicated and unmedicated adolescents with ADHD and adolescents without ADHD. Magnetic resonance imaging (MRI) scans were conducted at approximately ages 12 and 16. In several brain regions, cortical thinning between the scans was greater for the unmedicated ADHD patients than for those taking psychostimulants or the comparison group. Patients receiving stimulants had age-appropriate thinning. Qiu et al. (p. 74) applied a new tool to measurement of the basal ganglia, regions important in selecting goal-directed behavior. MRI scans of ADHD patients ages 8 to 13 were analyzed with large deformation diffeomorphic metric mapping, which provides details on the shape of brain structures. Girls with ADHD did not differ from typically developing girls, but boys with ADHD had smaller basal ganglia volumes than comparison boys. Boys with ADHD also had abnormal shapes in areas associated with control circuits linking the frontal cortex and subcortical regions. Rubia et al. (p. 83) distinguished brain dysfunction specific to ADHD from that associated with conduct disorder, which commonly coexists. A test of sustained attention that included rewards was given during functional MRI imaging to boys ages 9–16 who had either conduct disorder or ADHD, as well as healthy boys. The measurement of sustained attention revealed that boys with ADHD had underactivation in the ventrolateral prefrontal cortex but high activation in the cerebellum, thalamus, and hippocampus. Those with conduct disorder had abnormalities in paralimbic regions linking emotion and cognition. In response to reward, boys with conduct disorder showed dysfunction in the orbitofrontal cortex. These disorder-specific results help differentiate the two conditions. An editorial by Drs. Daniel Pine and Robert Freedman on p. 4 highlights these and other advances in research on pediatric mental illnesses.

Placebo Response in Depressed Children

A review of antidepressant trials for patients ages 6–18 years suggests that the high rate of response to placebo is related to the increase in large, multisite studies. An inflated placebo response rate obscures the efficacy of antidepressants, which are judged by their superiority to placebo. Bridge et al. (p. 42) therefore analyzed 12 randomized, controlled trials of second-generation antidepressants for children and adolescents with major depression. The number of study sites was the best predictor of placebo response. Illness severity was an inverse predictor, suggesting the need for recruitment of patients with at least moderately severe depression. These findings are discussed by Dr. Graham Emslie in an editorial on p. 1.

Revolving Prison Door for Mentally Ill

Texas state prisoners with bipolar disorder who began sentences in 2006–2007 were three times as likely to have had four or more incarcerations in the preceding 6 years as those without psychiatric disorders. For all 79,211 inmates entering Texas prisons over this 12-month period, Baillargeon et al. (CME, p. 103) determined incarceration history and current diagnoses of major depressive disorder, bipolar disorder, schizophrenia, and other psychotic disorders. These illnesses affected 10% of the incoming prisoners. All four conditions were associated with more criminal recidivism; all but depression were also related to higher rates of violent crimes. Dr. H. Richard Lamb describes several alternatives to prison for mentally ill offenders in an editorial on p. 8.

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