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Timely Topics in Pediatric Psychiatry

This section of Focus on Childhood and Adolescent Mental Health presents findings on an array of topics including inflammation and child and adolescent depression, glutamatergic dysregulation and pediatric psychiatric disorders, predictors of bipolar disorder in children with attention-deficit/hyperactivity disorder (ADHD), and the continuum between obsessive-compulsive personality disorder (OCPD) and obsessive-compulsive disorder (OCD).

There is increased interest in the role of inflammation in psychiatric disorders. Kim and colleagues conducted a systematic literature review to examine the relationships between inflammatory processes, inflammation, medical conditions, and depression and suicidality in children and adolescents. Twenty-seven studies were identified that included a biological measure of inflammatory markers and a measure of depression or suicide. The total number of youths in these studies was 18,621. On the basis of this literature review, the authors found a positive association between inflammation and child and adolescent depression. Evidence was insufficient to support an association between inflammation and suicidality in children and adolescents. The authors recommend future prospective studies to identify the utility of inflammatory markers to predict early treatment response in depressed youth.

The role of glutamate, an excitatory neurotransmitter in the brain, related to psychiatric disorders has received recent attention. Dysregulation of glutamate has been examined through magnetic resonance spectroscopy (MRS). Spencer and colleagues examined the literature to determine the specificity of findings related to pediatric psychiatric disorders. This review included 50 studies that had measures of glutamate or related metabolites with MRS in children with psychiatric disorders. The most consistent finding was an increase in glutamatergic metabolites in the anterior cingulate cortex, prefrontal cortex, and striatum for children with ADHD. Greater elevation of glutamatergic metabolites in youths with ADHD was associated with higher symptom severity. Glutamatergic metabolite levels tended to normalize with stimulant treatment in youth with ADHD. Data were limited for other psychiatric disorders; however, increases in glutamatergic metabolites were found in youth with autism spectrum disorders, those with emotional dysregulation, and those at high risk for schizophrenia. In contrast, there were decreases in glutamatergic metabolites in children with major depression, bipolar disorder, and OCD. The investigators note that limitations of the available literature included variability in how glutamatergic metabolite levels were measured, age of subjects, medication treatment, and assessment criteria.

Children with ADHD who have co-occurring bipolar disorder have a more severe course of illness than do children with either disorder alone. In an online offering, Jerrell and colleagues examined the effect of other comorbid psychiatric disorders and pharmacotherapy on children with ADHD who develop bipolar disorder. The study used a retrospective cohort design including 22,797 cases of children with ADHD identified from a Medicaid claims dataset. Children with ADHD had a mean age of 7.8 years. Seven percent of these children were diagnosed with bipolar disorder at a mean age of 12.2 years. The investigators identified predictors of incident bipolar disorder in the children with ADHD. Comorbid disorders found to increase the risk of a child being diagnosed with bipolar disorder were comorbid conduct disorder/oppositional defiant disorder (adjusted odds ratio [aOR] = 4.01), anxiety disorder (primarily generalized anxiety disorder) (aOR = 2.39), and substance use disorder (aOR = 1.88). Medication predictors were longer treatment with methylphenidate, mixed amphetamine salts/dextroamphetamine, or atomoxetine (aOR = 1.01) and treatment with antidepressants prior to the diagnosis of mania (aOR range, 1.69–2.37). The investigators conclude that the increased risk associated with having comorbid

disorders far outweighs the risk associated with exposure to ADHD pharmacotherapies. The investigators suggest that delayed onset of comorbid conduct disorder/oppositional defiant disorder and anxiety disorders in children with ADHD may provide an opportunity to intervene and decrease the likelihood of development of bipolar disorder in these children.

Since obsessive-compulsive symptoms occur in both OCD and OCPD, a question has been raised as to whether OCPD belongs in the new category of obsessive-compulsive and related disorders. In another online article, De Caluwé and colleagues used an item response theory approach to examine whether there is continuity between OCPD and OCD in adolescents. The investigators also assessed whether OCD symptoms are more severe compared to OCPD traits. A combined sample of 787 community and referred adolescents was used for the study. The measures included the Personality Inventory for *DSM-5*, and the items assessing perseveration, rigid perfectionism, intimacy avoidance, and restricted affectivity were included. The Youth Obsessive-Compulsive Symptoms Scale was also administered. The item response theory analysis tested whether OCD traits and OCD symptoms reflected the same underlying latent trait, that is, whether they are on the same continuum.

It was found that OCPD and OCD were on the OC spectrum at different levels of severity. The OCD symptoms were significantly more severe than the OCPD traits. The obsessive symptom domain was found to be the most severe OCD symptom domain compared to the order/clean/perfect and compulsive symptom domains. The investigators conclude that their analysis supports the continuity of OCPD and OCD in adolescents. The authors suggest that OCPD fits into the new category of obsessive-compulsive and related disorders for adolescents.

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