ELSEVIER
SAUNDERS

Psychiatr Clin N Am
28 (2005) 385–397

PSYCHIATRIC
CLINICS
OF NORTH AMERICA

Pharmacotherapy of Children and Adolescents with Bipolar Disorder

Robert A. Kowatch, MD[a,b,*],
Melissa P. DelBello, MD[a,b]

[a]*Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA*
[b]*Department of Psychiatry, University of Cincinnati Medical Center, Cincinnati, OH, USA*

Pediatric bipolar disorder is a serious disorder that seriously disrupts the lives of children and adolescents [1,2]. Children and adolescents with a bipolar disorder have significantly higher rates of morbidity and mortality, including psychosocial morbidity with impaired family and peer relationships [3], impaired academic performance with increased rates of school failure and school dropout [4], increased levels of substance abuse, increased rates of suicide attempts and completion, legal difficulties, and multiple hospitalizations [2,5]. Children and adolescents with a bipolar disorder are often brought to clinical attention because of their severe mood swings, disruptive behaviors, short sleep periods, intrusiveness, and hypersexuality. These disorders generally present differently than adult bipolar disorders because of developmental differences in the expression of this disorder in children and adolescents.

In a study of the incidence of mood disorders in adolescents in six Oregon high schools, Lewinsohn et al [1] reported an overall lifetime prevalence of 1% for bipolar disorders, which included bipolar I disorder, bipolar II disorder, and cyclothymia. In this study, the largest groups of adolescent subjects were what Lewinsohn and colleagues [1] called the core-positive group. These adolescents reported a distinct period of elevated, expansive, or irritable mood and best fit the *Diagnostic and Statistical Manual-IV* (DSM-IV) criteria for bipolar disorder, not otherwise specified (NOS). These subjects had an overall prevalence of 5.7% and accounted for 84% of Lewinsohn's bipolar sample [1]. Like the bipolar I subjects, the bipolar NOS subjects had high rates of psychosocial impairment and mental health service use. In more specialized

* Corresponding author. Department of Psychiatry, University of Cincinnati Medical Center, MSB 7261, P.O. Box 670559, Cincinnati, OH 45267.
E-mail address: Robert.Kowatch@uc.edu (R.A. Kowatch).

doi:10.1016/j.psc.2005.02.001

psychiatric settings, such as a pediatric psychopharmacology clinic, the occurrence of bipolar disorder is often much greater than that found in the general population. Wozniak et al [6] reported that of 16% of 262 consecutively referred children to a specialty pediatric psychopharmacology clinic met DSM-III-R criteria for mania. Isaac et al [7] reported that 8 of 12 students in a special education class met DSM-IIIR criteria for a bipolar disorder. In child/adolescent psychiatric inpatient units, it is common to find 30% to 40% of patients with a bipolar disorder.

Diagnosis of pediatric bipolar disorders

Children with bipolar disorder often present with a mixed or dysphoric picture characterized by frequent short periods of intense mood lability and irritability rather than classic euphoric mania [6,8]. Geller and colleagues [9] recently reported the results of a 4-year prospective study of 86 prepubescent and early-adolescent subjects. These subjects were evaluated every 4 months across a 4-year period by a research nurse using the Washington University Kiddie Schedule for Affective Disorders and Schizophrenia (WASH-U-K-SADS) [10]. To differentiate mania from attention deficit hyperactivity disorder (ADHD) clearly, Geller et al required the presence of elated mood or grandiosity in bipolar subjects. They defined an episode of mania as the entire length of the illness, with cycles of manic symptoms as short as 4 hours and with at least one cycle daily for 2 weeks, meeting DSM-IV criteria for mania. In this well-characterized sample, 10% had ultrarapid cycling, and 77% had ultradian (daily) mood cycling. None of these cases met DSM-IV criteria for rapid cycling (four or more episodes per year) but were described as having 3.5 ± 2.0 cycles (mood swings) per day. The average age of onset for mania/hypomania was 7.4 ± 3.5 years, with an average episode length of 79.2 ± 66.7 weeks. This study revealed that, in this sample of children and adolescents with more classic mania with euphoria and grandiosity, the phenomenology of mania is different from that seen in adults.

Bipolar II disorder with clearly defined episodes of hypomania and depression presents more often in adolescents than in children, who usually present with a major depressive episode. Past episodes of hypomania may be missed unless a careful history is taken. Cyclothymia is difficult to diagnose, because the hypomania and depressive symptoms are not as severe as in bipolar I or bipolar II disorder. Prospective mood charting is often helpful to diagnose cyclothymia. Bipolar NOS represents the largest group of patients with bipolar symptoms, and this diagnosis is made when the patient's bipolar symptoms are present but are not of sufficient severity or duration to warrant a diagnosis of bipolar I, II, or cyclothymia. Alternately, the diagnosis of bipolar NOS can be made when that a bipolar disorder is present but is secondary to a general medical condition (ie, fetal alcohol syndrome or alcohol-related neurodevelopmental disorder). A number of medications and medical disorders may exacerbate or mimic bipolar