

Angry, inattentive, and sidelined

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Y, age 16, is irritable, depressed, and has trouble concentrating. His grandfather recently died and he cannot play sports because of a history of concussion. What could be causing his symptoms?



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CASE Angry and depressed

Y is a 16-year-old male who presents with his mother to our clinic for medication evaluation because of anger issues and problems learning in school. He says he has been feeling depressed for several months and noticed significant irritability. Y sleeps excessively, sometimes for more than 12 hours a day, and eats more than he usually does. He reports feeling hopeless, helpless, and guilty for letting his family down. Y, who is in the 10th grade, acknowledges trouble focusing and concentrating but attributed this to a previous diagnosis of attention-deficit/hyperactivity disorder (ADHD). He stopped taking his stimulant medication several months ago because he did not like taking it. He denies thoughts of self-harm or thinking about death.

Y's mother reports that her son had been athletic but had to stop playing football because he has had 5 concussions. Y's inability to play sports appears to be a precipitating factor in his decline in mood (**Box, page 50**). He had his first concussion at age 13; the last one was several months before his presenting to the clinic. Y experienced loss of consciousness and unsteady gait after his concussions and was hospitalized for some of them. Y says his life goals are "playing sports and being a marine," which may be compromised because of his head injuries.

His mother reports Y is having more anger outbursts and says his personality is changing.

Y viewed this change as just being more assertive and fails to see that others may be scared by his behavior. He is getting into more fights at school and is more impulsive and unpredictable, according to his mother. Y is struggling in school with cognitive deficits and memory problems; his grade point average (GPA) drops from 3.5 to 0.3 over several months. He had been homeschooled initially because of uncontrolled impulsivity and aggression, but was reintegrated to public school. Y has a history of a mathematics disorder but had done well without school accommodations before the head injuries. Lack of access to his peers and poor self-esteem because of his declining grades are making his mood worse. He denies a history of substance use and his urine drug screen is negative.

Recently, Y's grandfather, with whom he had been close, died and 2 friends were killed in car accidents in the last few years. Y has no history of psychiatric hospitalization. He had seen a psychotherapist for depression. He had been on lisdexamfetamine, 30 mg/d, citalopram, 10 mg/d, and an unknown dose of

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Disclosure

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Box

Attention turns to concussions' psychiatric effects in athletes

Concussions in athletes often produce acute and chronic psychiatric symptoms, but there are few data on the epidemiology and treatment of these problems.

Physicians increasingly are recognizing chronic traumatic encephalopathy and psychiatric symptoms in athletes after traumatic brain injury (TBI). Unfortunately, little is known about the use of psychotropic medications in athletes with or without TBI, eating disorders, depression, anxiety, or other disorders.

Psychiatric symptoms can arise in an athlete after TBI for a variety of reasons. Symptoms of attention-deficit/hyperactivity disorder (ADHD), for example, may worsen after a concussion, or the TBI's damage to specific brain areas might cause psychiatric symptoms. Reaction to the stress of TBI, or to stressful life events after the TBI, might lead to psychiatric symptoms, according to Dr. Claudia L. Reardon of the University of Wisconsin, Madison.

Between 20% and 30% of people who suffer concussions develop acute major depressive disorder, and subacute depression or mood

liability is seen in others. Insomnia troubles 36% to 70% of patients after TBI. Other acute and subacute symptoms after TBI include anxiety, posttraumatic stress disorder, irritability, apathy, personality changes, impulsivity, somatization, and ADHD-like symptoms. In patients with preexisting disorders, concussion might exacerbate symptoms and make them more difficult to treat.

Children may be at greater risk than adults for long-term sequelae of TBI because their brains are still developing, and serious sequelae may be more likely in female than in male athletes, the literature suggests.

Concussions are common not just in "contact" sports such as football and soccer, but in many other sports, even when there's not a blow to the head. Athletes may make hard contact with floors (gymnastics or wrestling), walls (racquetball), or other objects or people (golf or basketball).

—Sherry Boschert

Clinical Psychiatry News Digital Network

Clinical Point

Prepubescent children are at higher risk for TBI and are more likely to sustain permanent damage post-TBI

dextroamphetamine. He had no major medical comorbidities. He lives with his mother. His parents are separated but he has frequent contact with his father. His developmental history is unremarkable. There was a questionable family history of schizophrenia, "nervous breakdowns," depression, and bipolar disorder. There was no family history of suicide.

On his initial mental status examination, Y appears to be his stated age and is dressed appropriately. He is well dressed, suggesting that he puts a lot of care into his personal appearance. He is alert and oriented. He is cooperative and has fair eye contact. His gait is normal and no motor abnormalities are evident. His speech is normal in rate, rhythm, and volume. He can remember events with great accuracy. He reports that his mood is depressed and "down." His affect appears irritable and he has low frustration tolerance, especially towards his mother. He is easy to anger but is redirectable. He does not endorse thoughts of suicidality or harm to others. He denies auditory or visual hallucinations, and paranoia. He

does not appear to be responding to internal stimuli. His judgment and insight are fair.

What would be your diagnosis at this point?

- major depressive disorder
- oppositional defiant disorder
- bipolar disorder, most recent episode depressed
- ADHD, untreated
- post-concussion syndrome

The authors' observations

Traumatic brain injury (TBI) affects 1.7 to 3.8 million people in the United States. More than 473,000 children present to the emergency room annually with TBI, approximately 75% of whom are given a label of mild TBI in the United States.¹⁻³ TBI patients present with varying degrees of problems ranging from headaches to cognitive deficits and death. Symptoms may be transient or permanent.⁴ Prepubescent children are at higher risk and are more likely to sustain permanent damage post-



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TBI, with problems in attention, executive functioning, memory, and cognition.⁵⁻⁷

Prognosis depends on severity of injury and environmental factors, including socioeconomic status, family dysfunction, and access to resources.⁸ Patients may present during the acute concussion phase with physical symptoms, such as headaches, nausea, vomiting, sensitivity to light and sounds, and memory deficits, and psychiatric complaints such as anger, irritability, and mood swings. Symptoms may persist post-concussion, leading to problems in personal relationships and social and occupational functioning, and neuropsychiatric manifestations, including changes in personality, depression, suicidal thoughts, and substance dependence. As seen in this case, Y had neuropsychiatric manifestations after his TBI but other factors, such as his ADHD diagnosis and the death of his grandfather and friends, may have contributed to his presentation.

Table

Neuropsychological test results

Wechsler Adult Intelligence Scale IV	Score (Mean=100, SD ± 15)
Full-scale IQ	87
General Ability Index	89
Verbal Comprehension Index	103
Perceptual Organization	77
Working Memory Index	89
Processing Speed Index	89

SD: standard deviation

Up to one-half of children with brain injuries may be at increased risk for unfavorable behavioral outcomes, which include internalizing and externalizing presentations.⁹ These behavioral problems may emerge several years after the injury and often persist or get worse with time.

continued

Clinical Point

Behavioral problems in children with brain injuries may emerge several years after the injury and often persist or get worse with time

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Managing Bipolar Depression: An Evidence-Based Approach

Bipolar disorder is characterized by the cyclical occurrence of elevated (manic or hypomanic) and depressed mood states. The illness, which includes the bipolar I and bipolar II subtypes, entails a heavy toll in terms of quality of life, functioning, morbidity, comorbidity, and mortality. Depressive episodes and symptoms deserve particular attention. Not only do they dominate the long-term course of the illness, they are associated with similar or greater psychosocial impairment than corresponding levels of manic or hypomanic symptoms.¹ Bipolar depression also poses special challenges for diagnosis and treatment, however, and recently, the scientific literature primarily focused on the management of manic episodes and symptoms.² Although numerous agents targeting the manic phase of bipolar disorder have received Food and Drug Administration (FDA) approval, there has long been an unmet need for FDA-approved agents in the treatment of bipolar depression (Figure 1). The antidepressant combination (D)C and guanfacine (D)C were FDA-approved for the acute treatment of bipolar depression in 2010 and 2006, respectively. However, treatment options have only very recently expanded with the 2013 approval of lamotrigine as monotherapy and adjunctive therapy for patients with bipolar depression. This article discusses new developments in the diagnosis and treatment of bipolar depression in an effort to help physicians follow an evidence-based approach to managing bipolar depression.

Diagnosis

Based on the DSM-IV-TR and DSM-5 criteria, the diagnosis of bipolar I disorder requires at least one full manic or mixed episode, whereas bipolar II disorder requires depressive and hypomanic episodes.^{3,4} In practice, patients display a complex constellation of symptoms during different phases of the illness, increasing the likelihood of misdiagnosis. Changes introduced in the new DSM-5 diagnostic criteria are intended to enhance the accuracy of diagnosis and facilitate earlier detection.⁵ A separate chapter is now devoted to bipolar and related disorders.

Other notable changes include:

- "mixed episode" has been eliminated; the "with mixed features" specifier has been added to mania or hypomania when depressive features are present, and to depressive episodes in the context of major depressive disorder (unipolar depression) or bipolar disorder when features of mania/hypomania are present.
- antidepressant switching full mania/hypomanic episode emerging during antidepressant treatment and preceding beyond physiological treatment effect to meet episode criteria is now sufficient to qualify as a mania/hypomanic episode diagnosis.
- the "with anxious features" specifier has been added for manic, hypomanic, and major depressive episodes.⁶

It remains to be seen how the DSM-5 changes will impact the diagnosis of bipolar illness and bipolar depression. The DSM-5 does not address

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Y was doing well academically until his concussions, after which he started to see a steep decline in his grades

Related Resources

- Giza CC, Kutcher JS, Ashwal S, et al. Summary of evidence-based guideline update: evaluation and management of concussion in sports: report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology*. 2013;80(24):2250-2257.
- Reardon CL, Factor RM. Sport psychiatry: a systematic review of diagnosis and medical treatment of mental illness in athletes. *Sports Med*. 2010;40(11):961-980.

Drug Brand Names

Citalopram • Celexa	Fluoxetine • Prozac
Dextroamphetamine • Adderall	Lisdexamfetamine dimesylate • Vyvanse

Behavioral functioning before injury usually dictates long-term outcomes post injury. The American Academy of Neurology recently released guidelines for the assessment and treatment of athletes with concussions (see *Related Resources*).

TREATMENT Restart medication

We restart Y on citalopram, 10 mg/d, which he tolerated in the past, and increase it to 20 mg/d after 4 days to address his depression and irritability. He also is restarted on lisdexamfetamine, 30 mg/d, for his ADHD. We give his mother the Child Behavior Checklist and Teacher's Report Forms to gather additional collateral information. We ask Y to follow up in 1 month and we encourage him to continue seeing his psychotherapist.

Which test(s) would you order?

- neuropsychological testing
- neurology referral
- imaging studies
- no testing

Bottom Line

Traumatic brain injury (TBI) affects children and adults with long-term sequelae, which affects outcomes. Outcome is dependent on several risk factors. Many patients with TBI also suffer from neuropsychiatric symptoms that affect their functioning at home and in social and occupational settings. Those with premorbid psychiatric conditions need to be closely monitored because they may be at greater risk for problems with mood and executive function. Treatment should be targeted to individual complaints.

EVALUATION Testing

Although Y denies feeling depressed to the neuropsychologist, the examiner notes her concerns about his depression based on his mental status examination during testing.

Neuropsychological testing reveals a discrepancy noted between normal verbal skills and perceptual intellectual skills that were in the borderline range (*Table, page 51*). Testing revealed results supporting executive dysfunction and distractibility, which are consistent with his history of ADHD. Y's broad reading scores are in the 20th percentile and math scores in the 30th percentile. Although he has a history of a mathematics disorder, his reading deficits are considered a decline compared with his previous performance.

The authors' observations

Y is a 16-year-old male who presented with anger, depression, and academic problems. He had genetic loading with a questionable family history of schizophrenia, "nervous breakdowns," depression, and bipolar disorder. Other than his concussions, Y was healthy, however, he had pre-morbid, untreated ADHD. He was doing well academically until his concussions, after which he started to see a steep decline in his grades. He was struggling with low self-esteem, which affected his mood. Multiple contributors perpetuated his difficulties, including, his inability to play sports; being home-schooled; removal from his friends; deaths of close friends and family; and a concern that his medical limitation to refrain from physical activities was affecting his career ambitions, contributing to his sense of hopelessness.

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Y responded well to the stimulant and antidepressant, but it is important to note the increased risk of non-compliance in teenagers, even when they report seemingly minor side effects, despite doing well clinically. Y required frequent psychiatric follow up and repeat neuropsychological evaluation to monitor his progress.

OUTCOME Back on the playing field

At Y's 1 month follow up, he reports feeling less depressed but citalopram, 20 mg/d, makes him feel "plain." His GPA increases to 2.5 and he completes 10th grade. Lisdexamfetamine is titrated to 60 mg/d, he is focusing at school, and his anger is better controlled. Y's mother is hesitant to change any medications because of her son's overall improvement.

A few weeks before his next follow up appointment, Y's mother calls stating that his depression is worse as he has not been taking citalopram because he doesn't like how it makes him feel. He is started on fluoxetine, 10 mg/d. At his next appointment, Y says that he tolerates fluoxetine. His mood improves substantially and he is doing much better. Y's mother says she feels that her son is more social, smiling more, and sleeping and eating better.

Several months after Y's school performance, mood, and behaviors improve, his phy-

sicians give him permission to play non-contact sports. He is excited to play baseball. Because of his symptoms, we recommend continuing treating his ADHD and depressive symptoms and monitoring the need for medication. We discussed with Y nonpharmacotherapeutic options, including access to an individualized education plan at school, individual therapy, and formalized cognitive training.

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Clinical Point

Teenagers are at increased risk for non-compliance, even when they report seemingly minor side effects, despite doing well clinically