Bipolar Disorder in Children/Youth: Information for Psychiatry Residents

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Summary: Bipolar disorder can occur in children and youth. Symptoms may include: 1) hypomanic/manic phases with increased energy, goal directed activity, grandiosity, distractibility and decreased need for sleep; 2) depressive phases with depressed mood and poor sleep, energy, concentration. Management includes: 1) stopping any triggering medications such as antidepressants or stimulants; ; 2) non-medication strategies to restore regular biorhythms such as sleep; 3) bipolar medications may be indicated such as lithium, divalproex or antipsychotics.

Case

15-yo Dave is referred to see you by his family physician for unstable moods. He was previously seen with depressed mood and started on an SSRI trial. Unfortunately, the trial led to a period of worsening characterized by decreased need for sleep, euphoric moods, increased activities (e.g. increased religiosity with saying prayers, working out in the middle of the night) and talking non-stop. Afterwards, it was followed by a depressive episode where he was feeling suicidal.
His parents ask: “Do we need to increase the dose of his antidepressant?”

Epidemiology

Bipolar often starts in childhood and young adulthood

- Up to 2/3 of adult patients with a diagnosis of bipolar disorder report that their mood symptoms started in childhood/adolescence (Goldstein, 2006)
- Up to 10% report symptoms started before age 13 (Goldstein, 2006)

Prevalence

- Adult
  - 1% (Lewinsohn, 1995)
- Youth aged 14-18 (Lewinsohn, 1995)
  - 1% with bipolar I, II, cyclothymia
  - 6% with Bipolar NOS

- Lifetime rate of bipolar disorder among adolescents is 2.7% (Lewinsohn, 1995; Kessler, 2009; Van Meter, 2011).

Red Flags for Paediatric Bipolar

The following symptoms, especially if episodic, are red flags for bipolar:

- Increased activity and/or elation or silliness.
- Decreased need for sleep, e.g. only sleeping a few hours and then not being tired the next day.
- Presence of psychotic symptoms (e.g. hallucinations, delusions).

Clinical Presentation

Children/youth with bipolar can present:

1. With recurrent episodes of mania or hypomania.
2. With or without episodes of depression.

History

Collateral history from parents (and ideally teachers as well) is important, as children/youth may be poor historians regarding their symptoms. Sample questions to ask, that would need to be modified depending on whether you are asking the child/parent/teacher:

Mood	Tell me about your child's moods...
Mania/Hypomania	Are there high periods? What are the high periods like? During high periods, are there problems with: • D)istractibility? • I)ndiscretion, e.g. unhealthy spending, sexual activity, risk-taking behaviours • G)randiosity such as increased self-esteem, thinking they have special powers • F)light of ideas, i.e. thoughts too fast. • A)ctivity increased, e.g. constantly being busy. • S)leep deficit, i.e. decreased need for sleep • T)alkativeness, i.e. talking constantly.
Depressive periods	Are there low periods? What are the low periods like? During low periods, are there problems with: • S)leep • I)nterests • E)nergy down • C)oncentration or distractibility?
Substance Use	Does your child use any substances? E.g. alcohol? Marijuana? Hallucinogens?

Mood Charts

Consider asking the parents to help the child/youth with a mood chart.
Websites with free, downloadable mood charts include:

- Centre for Quality Assessment and Improvement in Mental Health
  http://www.cqaimh.org/pdf/tool_edu_moodchart.pdf
- BpChildren
  http://www.bpchildren.com/Charting.html
- Psychiatry24x7
  http://www.psychiatry24x7.com/bgdisplay.jhtml?itemname=mooddiary

Apps to track moods include:

- Mood tracker app
  https://www.moodtracker.com/index.php

Screening Tools

Parent General Behavior Inventory 10-item (PGBI-10M)

- 10-item scale for parents to screen for bipolar in their children
- Scoring instructions
  - Scores from each question are added together to form a total score, with higher scores indicating a greater severity of symptoms.
    - Scores range from 0 to 30.
    - Low scores of 5 and below indicate a very low risk of a bipolar diagnosis.
    - High scores of 18 and over indicate a high risk of a diagnosis of bipolar disorder, increasing the likelihood by a factor of seven or greater.
- URL: https://moodcenter.org/wp-content/home/ementalhealth/ementalhealth.ca/frontend/uploads/2015/08/PGBI-Clinical-Version-.pdf
- Reference: Youngstrom, 2008.

7 Up 7 Down Inventory

- 14-question inventory to screen for bipolar developed by Dr. Youngstrom
- URL: https://unc.az1.qualtrics.com/jfe/form/SV_cBlUQk8Y85LHF41

Child bipolar questionnaire (CBQ)

- 65 question inventory to screen for bipolar. Free to use, though registration is required.
- URL: https://www.jbrf.org/the-child-bipolar-questionnaire-for-families-use/

Diagnosis of Bipolar in Children/Youth under DSM-5

Is it normal vs. bipolar/hypomania?

	Normal	Bipolar / Hypomania
Increased talkativeness	May be talkative, but can be interrupted	Tends to be talkative, and hard to interrupt
Goal directed activity	May be extremely active (e.g. those with ADHD) or multi-taskers	Increased activity from baseline, such as: E.g. activities happening at unusual times (e.g. late at night) E.g. developmentally inappropriate (e.g. teenager trying to get major bank loan, business deals)
Decreased need for sleep	May occasionally sleep less than usually, but will usually be tired the next	May sleep only a few hours (if hypomanic), or not sleep at all (if manic), however, will NOT be tired the next day and still appear to be high energy

Grandiosity	Many teens may be ‘grandiose’ in that they think they are the “best” and better than others including their parents and adults.	Increased grandiosity from usual child/youth grandiosity; Grandiosity to an extreme: E.g. believing that one can fly, is invulnerable or other super powers E.g. believing that one is the best sports player even despite being clearly not the best player on the team.
Elation	Happy while doing pleasurable activities	Inappropriately elated, or excessively elated for what might be expected.
Sexual interest	May be interested or curious about sex.	Excessive interest that is inappropriate, e.g. preoccupation with naked people; touching private areas of self or others; wanting to date one’s teacher, etc. The interest is not better explained by history of sexual abuse, exposure to pornography, etc.

Is it hypomania vs. mania?

	Hypomania	Mania
Severity of symptoms	Less severe symptoms	More severe symptom
Duration	At least 4-days (by DSM-IV)	
Function	Function may appear to be increased in narrow areas (e.g. more social, energy, creativity), but especially with repeated episodes, may show decline in function	Function appears to be more obviously impaired

Is it bipolar vs ADHD?

	Bipolar	ADHD
Age of onset	Symptom appear age 10 or older	Symptoms are present from earlier age
Responsive to stimulants	Symptoms worse with stimulants	Symptoms improve with stimulants
Stability of symptoms	Symptoms are episodic	Symptoms are consistently present
Type of symptoms	Episodes of increased mood, grandiosity, less need for sleep	Inattention, distractibility, problems with low frustration tolerance

Is there major depression?

Are there symptoms of

- Depressed mood
- Neurovegetative symptoms such as problems with
    - Decreased sleep
    - Decreased energy
    - Decreased concentration / increased distractibility

DSM-5 Criteria for Manic Episode

DSM-5 criteria for a manic episode are as follows.

1. Distinct period of abnormally and persistently elevated, expansive, or irritable mood lasting at least 1 week (or any duration if hospitalization is necessary).
2. During the period of mood disturbance, 3 or more of the following symptoms persisted (4 if the mood is only irritable) and have been present to a significant degree:
    1. Inflated self-esteem to levels of grandiosity
    2. Decreased need for sleep
    3. More talkativeness than usual, often characterized by pressured speech with a sense of a need to keep talking
    4. Flight of ideas or a subjective feeling that thoughts are racing
    5. Distractibility
    6. Increased goal-directed activity or psychomotor agitation
    7. Excessive involvement in pleasurable activity that has a high potential for painful consequences (eg, hypersexuality, excessive spending, impetuous traveling)
3. Symptoms do not meet the criteria for a mixed episode.
4. Mood disturbance is severe enough to cause marked social impairment in occupational functioning, social activities, or relationships with others. Hospitalization may be necessary to prevent harm to self or others or if psychotic features are present.
5. Symptoms are not due to the direct physiologic effects of a substance or a general medical condition.

Predictive Factors for Eventual Bipolar Diagnosis

The following are risk factors associated with an eventual diagnosis of bipolar

- Adolescents with major depression with:
    - Psychosis
    - Medication-induced mania

DDx of Bipolar, i.e. “the Moody Child”, i.e. Affect dysregulation

Medical DDx

Sleep Disorders	Any problems with snoring, restless legs? Patients with sleep disorders may have decreased sleep, but this will be followed by fatigue the next day, unlike mania/hypomania
Tourette’s	Any tics? Patients with Tourette’s may have anger and mood dysregulation
Infectious	NMDA Encephalitis (Kayser, 2013) • ● Is there new onset psychosis? Past history of encephalitis? Any neurologic symptoms? • ● Consider testing for NMDA receptor antibiotics and referral to neurology / paediatrics / internal medicine
Neurologic	Head trauma: Any history of head trauma? Brain tumors: Any focal neurologic symptoms?

Psychiatric / Comorbid DDx

Depressive disorders, e.g. major depression, dysthymic disorder	With depressive disorders, the depressed periods will resemble the depressed periods in bipolar
Substance use disorders	Substance use may be a comorbid condition seen with bipolar, as patients may be impulsive, or may be trying to self-medicate

Learning disorders (e.g. NVLD)	With NVLD, there can be mood dysregulation, especially if there are comorbid issues such as ADHD / sensory issues Is there a verbal / non-verbal split? Does there appear to be average to above average language? Does there appear to be poor non-verbal skills (such as social skills, understanding tone of voice, etc.)?
Borderline personality traits	With borderline personality traits, the patient may have angry outbursts usually triggered by perceived rejection or abandonment Does the patient have significant issues with abandonment? Rejection?
Disruptive mood dysregulation disorder (DMDD)	Children with DMDD have problems with angry outbursts, however studies show that they are not at risk for developing bipolar disorder in the future (although they are at risk for future depressive/anxiety disorders) Bipolar disorder is episodic, whereas DMDD is more non-episodic Screening questions • Are there severe, recurrent temper outbursts that are grossly out of proportion in intensity or duration to the situation? (e.g. tantrums last 20 minutes rather than simply a few minutes; there may be physical violence with kicking, hitting, throwing spitting) • Do they occur at least 3 or a week for one year or more? • Between outbursts, is mood persistently negative (irritable, angry or sad) most of the day? • Do symptoms occur in at least two settings (home, school or with peers) for 12 or more months? • Did symptoms start after age 6 (i.e. toddlers cannot have it)? • Did symptoms start before age 10? (i.e. it is a childhood condition)
Attention deficit hyperactivity disorder (ADHD)	With ADHD, symptoms (e.g. hyperactivity, distractibility) tend to be persistent and represent the child's baseline. With bipolar, symptoms are intermittent or episodic with periods of increased energy, and periods of decreased energy.
Autism spectrum disorder (ASD)	With ASD, there may be problems with emotional regulation, such as meltdowns with changes and transitions; problems seeing other's perspectives may appear selfish or grandiose. Are there narrow, stereotyped routines? Difficulties with changes/transitions?
Sensory processing disorder	With sensory processing issues, patients may be easily triggered into red zone (emotional dysregulation and meltdowns) when overstimulated. Are there sensitivities to sound? Light? Touch?
Intermittent explosive disorder (IED)	Are there periods of explosive anger that is disproportionate?

Physical Exam

There are no specific physical findings in bipolar.
However, physical can help to:

- Rule out contributory medical conditions such as
    - Hyperthyroidism, which can mimic bipolar
    - Hypothyroidism, which can mimic depression

Investigations

There are no diagnostic investigations for bipolar however investigations may help rule out contributory medical conditions such as:

- B12/folate to rule out B12/folate deficiency
- Thyroid indices such as TSH to help rule out hyperthyroidism
- Sleep studies can help assess sleep problems

Management: Non-Medication Strategies

Teach child/ parents how to self-regulate

- Common elements of self-regulation programs include
    - Teaching the child about the concept of being
        - “Engine running just right” / “Green zone”, i.e. optimal regulation, where one can learn, work and play
            - Family is taught how to find activities that provide optimal stimulation for the child/youth
        - “Engine running too high” / “Red or yellow zone” (i.e. overstimulated, which can lead to fight / flight / freeze)
            - Family is taught strategies how to reduce stimulation when understimulated and/or using soothing, self-regulating strategies
        - “Engine running too low” “Blue zone” (i.e. understimulated, which can lead to boredom
            - Family is taught strategies how to safely increased stimulation when understimulated
    - Self-regulation programs that many schools use include:
        - Zones of Regulation (www.zonesofregulation.com)
        - Alert Program (www.alertprogram.com)

Regular routines to set biorhythms might include

- Example of a routine for a child/youth on a school day

Morning routine	• Regular wakeup time. • Exposure to light in the morning ideally to set circadian rhythm. • Breakfast with others.
School routines	• Consider accommodations/modifications for school so that school can help ◦ Identify what strategies help get the child into their calm zone (aka "green zone") E.g. do have regular things in the schedule that help with self-regulation, e.g. regular nature time and movement, etc. ◦ Avoid triggers that get the child into upset zone (aka "yellow zone") ■ Is the child getting upset and in "yellow zone", identify what strategies help get back into calm ("green zone"). E.g. Do validate emotional upset, do give a break, etc. ◦ Avoid triggers that get into fight/flight zone (aka "red zone") ■ Is child in "red zone"? Have strategies to get back into "yellow", e.g. giving space, calming sensory environment, monitor from distance, evacuate classroom, don't give punishment, don't threaten consequences, don't make things worse.
After school routine	• Outdoor time • Free time (ideally less electronics)
Dinner	• Dinner time, ideally with others.
Evening	• Healthy activities, ideally as a family.
Bedtime routine	• Regular, soothing routines such as calming bath, shower with calming scents. • Brush teeth, put on pajamas. • Calm non-electronic activities, e.g. drawing, reading, doing Legos, etc. • If listening to music on a device, turn on low blue settings, listen to music NOT watch videos. • Low blue light environment to promote melatonin, e.g. have red / orange LED lights in the bedroom and ideally the sleeping areas.

Medication Management

- Don't make things worse
    - Stop any stimulants.

    - Taper down and stop any antidepressants.

- Are there symptoms of mania, or mixed (i.e. irritability), without psychosis? If so, then consider:
    - First-line: Monotherapy with
        - Mood stabilizer (e.g. Li, DVPA or CBZ) or
        - Atypical (Olanzapine, Quetiapine or Risperidone)
    - Second-line: Monotherapy PLUS Augmentation with
        - Mood stabilizer (e.g. Li, DVPA or CBZ) PLUS
        - Atypical (Olanzapine, Quetiapine or Risperidone)
- Is there significant depression?
    - Consider lithium or lamotrigine (March, 2005).

- Are there persisting ADHD symptoms such as significant distractibility?
    - Consider low dose stimulants for ADHD symptoms (in conjunction with a mood stabilizer) (March, 2005).

Reference

- Treatment Guidelines for Children and Adolescents with Bipolar Disorder, JACAAP March 2005.

When and Where to Refer

Is the patient having clear symptoms of a mania/hypomania, along with significant impairment of function (e.g. unable to attend school; needing constant supervision)?

- Consider admission to hospital in speaking with psychiatry on-call.

Case, Part 2

You are seeing 15-yo Dave for severe mood swings. His symptoms have not responded to a trial of psychotherapy. Symptoms worsened with a trial of SSRIs. History reveals episodes of increased mood and energy, decreased need for sleep. These episodes are followed by periods of depression.
You wonder about possible medication-induced bipolar, and thus:

- You stop his antidepressant medications.
- You recommend various lifestyle strategies, in particular sleep hygiene and regular biorhythms.
- You start with an antipsychotic (Olanzapine 2.5-5 mg qhs) at bedtime to help regulate sleep and circadian rhythm, given problems with insomnia.
- You schedule follow up within 1-2 weeks to review. At that time, you will review his Olanzapine, and consider increasing if necessary.

References

Baldessarini RJ, Bolzani L, Cruz N, Jones PB, Lai M, Lepri B, Perez J, Salvatore P, Tohen M, Tondo L, Vieta E, J Affect Disord. 2010 Feb; 121(1-2):143-6.
Chengappa KN, Kupfer DJ, Frank E, Houck PR, Grochocinski VJ, Cluss PA, Stapf DA. Am J Psychiatry. 2003 Sep; 160(9):1636-42.
Culpepper L: The Diagnosis and Treatment of Bipolar Disorder: Decision-Making in Primary Care, Prim Care Companion CNS Disord. 2014; 16(3).
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4195640/
Goldstein BI et al.: Further evidence for a developmental subtype of bipolar disorder defined by age at onset: results from the national epidemiologic survey on alcohol and related conditions. Am J Psychiatry. 2006;163(9):1633–6.
Goodwin FK, Jamison K. Manic-Depressive Illness: bipolar disorders and recurrent depression. 2nd ed. New York, N.Y: Oxford University Press; 2007.

Henry DB, Pavuluri MN, Youngstrom E, et al. Accuracy of brief and full forms of the Child Mania Rating Scale. Journal of Clinical Psychology. 2008;64:368–381.
Kayser et al.: Frequency and characteristics of isolated psychiatric episodes in anti-NMDA receptor encephalitis, JAMA Neurol. 2013 Sep 1; 70(9).
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3809325/
Kessler et al.: National Comorbidity Survey Replication Adolescent Supplement (NCS-A): III. Concordance of DSM-IV/CIDI Diagnoses With Clinical Reassessments, J. Am. Acad. Child & Adolesc. Psychiatr, 2009 Apr; 48(4): 386-399.
Kowatch et al.: Treatment Guidelines for Children and Adolescents with Bipolar Disorder, J. Am. Acad. ChildAdo/esc. Psychiatry. 2005;44(3):213-235.
Rohde P et al.: Key Characteristics of Major Depressive Disorder Occurring in Childhood, Adolescence, Emerging Adulthood, Adulthood. Clin. Psychol. Sci, 2013 Jan; 1(1).
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3833676/
Van Meter et al.: Meta-analysis of epidemiologic studies of pediatric bipolar disorder. J. Clin Psych, 2011 Sep; 72(9):1250-6.
https://www.ncbi.nlm.nih.gov/pubmed/21672501
Youngstrom E et al.: Developing a 10-item mania scale from the Parent General Behavior Inventory for children and adolescents. J Clin Psychiatry. 2008 May;69(5):831-9.
https://www.ncbi.nlm.nih.gov/pubmed/18452343

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