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Bipolar Disorder in Children/Youth: Information for Primary Care

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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 Fernando is brought by his parents for problems with 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. praying for several hours a day including late at 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 sillness
- 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)ecreased need for sleep? I)ncreased energy? I)ncreased talkativeness? I)Increased activities or projects? I)ncreased self-esteem or grandiosity?
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
- Psychiatry24x7
  http://www.psychiatry24x7.com/bgdisplay.jhtml?itemname=mooddiary
- BpChildren
  https://www.bpchildren.com/kids

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.
- Reference:
  - Youngstrom, 2008
- Link
  - https://moodcenter.org/wp-content/home/ementalhealth/ementalhealth.ca/frontend/uploads/2015/08/PGBI-Clinical-Version-.pdf

7 Up 7 Down Inventory

- 14-question inventory to screen for bipolar developed by Dr. Youngstrom
- Link
  - 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.
- Link
  - https://www.jbrf.org/the-child-bipolar-questionnaire-for-families-use/

Diagnosis of Bipolar in Children/Youth

The main bipolar diagnoses are:

- Bipolar I
  - Episodes of mania (severe high moods lasting at least 7 days, typically requiring hospitalization). There may or may not be depressive episodes.
- Bipolar II
  - At least one major depressive episode (lasting at least 2-weeks), and at least one hypomanic episode (lasting at least 4 days).
- Cyclothymia
  - A milder form of bipolar II where a person has low moods (depressive symptoms but not enough to be major depression), and high moods (hypomanic symptoms but not enough to be hypomania).
- Bipolar NOS
  - Bipolar NOS is used when people have mood lability, but otherwise don’t meet for any other criteria.
  - Used as a label to monitor people who might be at risk of developing future bipolar, which might suggest caution with starting stimulants or antidepressants.

Manic Episode “DIGFAST” Mnemonic

The DIGFAST mnemonic summarizes the key symptoms of a manic/hypomanic episode. Imagine a person with mania who is digging very fast. Not every criteria needs to be met; under DSM-5, mood elevation plus at 3-4 symptoms would be sufficient to meet criteria.

Question	Answer
D)istractibility: Are more distractible than usual?	
I)mpulsivity/irritability: Are you more impulsive than usual?	
G)randiosity: Do you have special skills or abilities that others don’t have?	
F)light of ideas: Are your thoughts faster than usual?	
A)ctivity increased: Are you doing more more activities or find yourself busier than usual?	
S)leep decreased: Have you had less need to sleep lately?	
T)alkative: Have you been more talkative than usual?	

Is it normal child/youth moodiness vs. bipolar/hypomania?

- Many children have symptoms of mood swings and affect lability that may appear hard to distinguish from bipolar.
- Ultimately, the key difference is that bipolar/hypomania is episodic.

	Normal	Bipolar / Hypomania
Increased talkativeness	People with ADHD or autism spectrum may be hard to interrupt.	Increased talkativeness in bipolar/hypomania will be a distinct change in baseline.
Goal directed activity	People with autism spectrum can become very fixated in their activities.	Increased activity in bipolar / hypomania will be an increase from baseline: 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	People may occasionally sleep less than usual, but will be tired the next day.	Patient will report less need for sleep (e.g. only a few hours (if hypomanic), or not sleep at all (if manic), yet despite less sleep will feel they have 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, however this is their baseline.	Classic examples are person who • Believes they are special compared to peers and adults; • Special powers / abilities, e.g. believing that one is the best sports player even despite being clearly not the best player on the team. On the other hand, a person with normally low self-esteem might simply have normal self-esteem.
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.

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.

Differential Diagnosis (DDx) / Comorbidity

There are many other conditions that may resemble bipolar as they cause mood swings and affect dysregulation, or may be comorbid with bipolar.
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	Are there angry outbursts usually triggered by perceived rejection or abandonment? This can be seen in those with a history of complex trauma or adverse childhood experiences.

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)
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 disorder, patients may have emotional dysregulation and meltdowns when overstimulated Are there sensitivities to sound? Light? Touch?
Intermittent explosive disorder	Are there periods of explosive anger that is disproportionate?

Physical Exam

There are no specific physical findings in bipolar.
Physical may be helpful to

- Rule out contributory medical conditions such as
  - Hyperthyroidism, which can mimic bipolar
  - Hypothyroidism, which can mimic depression
  - Sleep studies can help assess sleep problems.
- Detect comorbid conditions such as obesity.
- Establish baseline indices such as
  - Body mass index (height, weight)
  - Blood pressure
  - Waist circumference
  - Neurologic baseline
    - Any extrapyramidal symptoms such as muscle rigidity? (in case antipsychotics are started)
    - Any tremors or cerebellar symptoms? (in case lithium is started)

Investigations

There are no diagnostic tests for bipolar disorder, however consider the following (if indicated) to rule out contributory medical conditions:

- CBC - Pernicious anemia
- Fasting glucose level, lipid profile - Diabetes mellitus, hyperlipidemia, Cushing syndrome)

- Liver function tests - hepatitis
- TSH level - thyroid disorders
- Urinalysis - infection in older patients
- Urine toxicology - substance abuse
- Is there new onset psychosis? Consider investigationsto rule out neurologic causes such as seizure disorder, intracranial mass, and other causes of secondary psychosis
    - EEG if indicated
    - MRI or CT if indicated

Will medications be started? If so, CANMAT guidelines recommend the following baseline indices (CANMAT, 2010)

- CBC – baseline for anticonvulsants
- Electrolytes
- Fasting glucose - baseline for any medication that may cause weight gain or hyperglycemia
- Fasting lipid profile (TC, vLDL, LDL, HDL, TG) - baseline for any medication that may cause weight gain or hyperglycemia
- Liver enzymes – baseline for anticonvulsants and antipsychotics
- Serum bilirubin
- Platelets, Prothrombin time and partial thromboplastin time
- Urinanalysis
- Urine toxicology for substance use
- Serum creatinine
- 24-h creatinine clearance (if history of renal disease)
- Thyroid stimulating hormone (TSH) – baseline for lithium
- Electrocardiogram (ECG) (>40 years or if indicated) – baseline for medications like lithium and antipsychotics that can prolog QTc interval
- Pregnancy test in females (if positive, teratogenic medications would be avoided)
- Prolactin (baseline)

Management: Non-Medication Strategies

Regular routines to set biorhythms (as in Interpersonal Social Rhythm Therapy)

- Regular, structured routines (as opposed to lack of structure and lack of routines)
- Morning routines
    - Regular breakfast time.
    - Ensure exposure to light and outdoor time in the morning / afternoon.
- School routine
    - Regular lunch time.
- Afternoon routine.
    - Chores / responsibilities.
    - Homework / schoolwork.
- Evening routine
    - Regular dinner time.
- Bedtime routine
    - Have winding down routines that calm.
    - Ensure low blue light prior to bedtime. Consider using orange or red LED lights in the person's bedroom.
- Avoid overstimulation
    - Ensure there are limits on screen use (e.g. recommended 1-2 hrs/max daily for children/youth).
    - Ensure there is a screen curfew (e.g. no screens past 8-9 PM).

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)

Management: Resources for Educating Families

Bipolar in Children and Youth: Information for Parents and Caregivers

Medication Management in Primary Care

Although often primary care providers might leave medication management to psychiatrists, there are key interventions that can be started by primary care if there are concerns of bipolar:

- Stop any stimulants.
- Taper down and stop any antidepressants.

Are there currently symptoms of mania, or mixed (i.e. irritability), without psychosis?

- Acute management of mania (CANMAT, 2018)
  - 1st line
    - Lithium
    - Risperidone
    - Aripiprazole
    - Asenapine
    - Quetiapine
  - 2nd line
    - Olanzapine
    - Ziprasidone
    - Quetiapine adjunctive
  - 3rd line
    - Divalproex
  - Not recommended
    - Oxcarbamazepine (Trileptal) (as large RCT trial showed it was not superior to placebo)

Are there currently symptoms of acute bipolar I depression? (i.e. major depressive episode)

- 1st line
  - Quetiapine
  - Lurasidone + Li/DVP
  - Lithium

    - Lamotrigine
    - Lurasidone
    - Lamotrigine
- 2nd line
    - Divalproex
    - SSRIs / bupropion (adjunctive)
    - Olanzapine / fluoxetine
- Reference:
    - There is a lack of specific guidance for children/youth, hence these guidelines are from adults, which should still apply to youth.
    - Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder
    - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5947163/

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 referral to emergent psychiatric assessment (such as hospital with psychiatry on-call) (i.e. same day), after speaking with psychiatry on-call

If symptoms are less severe, consider:

- Urgent psychiatric assessment (i.e. follow-up within several days, such as with an “urgent care clinic” if this is available), or
- Speak with your local mental health intake service regarding options.

In general, primary care providers will leave the diagnosis and management of bipolar to psychiatry.

Case, Part 2

You are seeing 15-yo Fernando 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 refer him to a child psychiatrist, who confirms your course of action. The child psychiatrist also recommends monitoring for future manic/hypomanic episodes, and should those occur, that the patient be started on mood stabilizer / atypical antipsychotic.

Clinical Practice Guidelines

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