

## Diagnostic and management challenges of pre-pubertal bipolar disorder in an eight-year old Nigerian child: a case report and review of literature

### Case Report

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### ABSTRACT

An eight-year old boy presented with a 1-week history of poor sleep, over activity and claiming that parents wanted to use him for rituals. He was admitted unto the male psychiatry ward and while on admission he was overactive and disruptive, irritable, grandiose and dis-inhibited with loss of age-appropriate social grace. To our knowledge, this is the youngest age that bipolar disorder has been reported in Nigeria. The diagnostic and management challenges were highlighted.

**Keywords:** Child and adolescent mental health, diagnosis, mania

### INTRODUCTION

There has been a growing global interest in pre-adolescent bipolar disorder (BD) over the past decade with an increasing number of clinical trials, publications and international meetings focusing on the subject.<sup>1</sup> The disorder was thought to be rare in pre-adolescents and was seldom diagnosed among them until recent times.<sup>2</sup> Retrospective data obtained from interview of adults with BD however, showed that 15%–28% started having symptoms before puberty.<sup>3,4,5</sup>

Early diagnosis and prompt treatment of pre-adolescent BD is of utmost importance because of associated significant functional

morbidity, disruptions in the developmental trajectories of a child and the tendency to progress into adolescence and adulthood.<sup>6,7</sup> Furthermore, higher risk of devastating outcomes like co-morbid substance abuse and suicide in pre-adolescent BD compared with later-onset BD underscores the importance of this disorder.<sup>7,8</sup>

There is paucity of literature on pre-adolescent BD in sub-Saharan Africa. This may reflect a low incidence, under-diagnosis, misdiagnosis or non-presentation in clinical settings perhaps, partly resulting from socio-cultural barriers to help seeking. To create awareness and stimulate interest, we report

the diagnostic and management challenges of BD that presented in an eight-year old Nigerian child.

#### CASE REPORT

The patient is an eight-year old Nigerian elementary school pupil referred from the General Out-patient Department of the University College Hospital, Ibadan (Nigeria) to the Psychiatry Clinic on account of a 1-week history of poor sleep, hyper-activity, irritability and accusing parents of planning to kill him for ritual purposes.

#### **History of Present Illness**

The history was given by both parents who were living together with the patient since the onset of illness. However, corroborative initial history could neither be obtained from the patient's teachers due to logistic problems nor from the patient due to his in-attention and disruptiveness. The patient was said to have been in his usual state of health until about 8 days prior to presentation when he was noticed to be sleeping poorly with associated nocturnal disruptive activities like writing, packing and un-packing household items and singing in loud tones. He was also said to be irritable, rude and hyper-active (running around the house, trying to invent and re-invent toys and re-arranging furniture in the house).

He was reported to be accusing his parents of planning to kill him for wealth-creation rituals, on the strength of which, he had hit and used foul language on his parents. These behaviours were described as unusual for him and the parents gave no history of pre-existing conduct or attention problems at home or in school. The parents reported neither associated history of hyper-sexuality or risky behaviours nor preceding depressive symptoms or substance abuse. No ongoing psychosocial stressors could be identified prior to onset of illness.

#### **Past Psychiatry History**

This was the first episode of this kind of illness and there was no previous history suggestive of depressive illness.

#### **Past Medical History**

There was no history of an enduring physical illness, no preceding or associated history of fever or other constitutional symptoms, and the patient was not on any medication prior to onset of the illness or at the point of presentation.

#### **Personal, Developmental and Social (Family) History**

The patient was a product of a full term pregnancy, delivered in a private hospital via an emergency caesarian-section on account of premature rupture of membranes and associated chorio-amnionitis. The APGAR score at birth was unknown. He had neonatal jaundice on the third day of life which resolved after one week of phototherapy. Exact bilirubin levels could not be ascertained. He was said to have had normal developmental milestones comparable to other siblings.

He was a 4<sup>th</sup> year pupil of an elementary school and his school performance was rated as average. Social interaction with peers and teachers as well as behaviour in classroom was said to be acceptable prior to onset of illness. The patient was the last of 4 children, his father was a 40-year old banker while the mother was a 34-year old homemaker. The oldest of his siblings was 14 years of age and the relationship between the patient and his siblings on one hand and with his parents on the other, was said to be cordial. The father was said to have had a similar sudden onset of abnormal behaviour in his early childhood which has never recurred in his adult life. He could not give details of the nature, duration, symptoms and mode of treatment of the illness on the grounds of his young age then. He however declined to have his parents interviewed.

### **Mental State Examination**

Mental State Examination at presentation revealed a young boy whose size appeared appropriate for age. He was hyper-active, running around the consulting room and scattering the nurses' table. He was overconfident, displaying gestures above his age and walking around with an exaggerated air of importance. He was very talkative, speech was pressured and of increased tone, and affect was mostly irritable. He had persecutory delusions, believing that his parents were evil and that they want to kill him for ritual purposes. Attention and concentration were impaired and judgment was poor. Insight was lacking.

### **Physical Evaluation and Investigations**

He was about 1 meter tall, weighed 16 kg and at Tanner's Stage I of development. Physical examinations done were essentially normal. EEG showed abnormal recordings of sharp and slow wave discharges over both centro-temporo-parieto-occipital regions. The Neurologist's Report ruled-out epileptiform activity. Blood chemistry was within normal limits. There was no facility for drug screening in the hospital.

### **Illness Course**

An initial diagnosis of brief psychotic disorder was made and he was admitted in the male wing of the adult Psychiatry Ward (there is no separate facility for child and adolescent psychiatry in-patient care). He was commenced on Tabs Chlorpromazine 25mg b.d. which was gradually built-up to 50mg b.d. over the first 5 days of admission. He remained talkative, disruptive, restless, intrusive, dis-inhibited, and grandiose and lacked age-appropriate social grace.

He made several attempts to sneak out of the open ward, taking advantage of his relative small size which made him inconspicuous among the older patients. He had to be assigned a nurse per shift (out of the average 3-4 nurses per shift for an average of 18-28

patients) for close monitoring, thereby taking up about 25-30% of the entire nursing staff strength per shift. He would also not calm down at night without the presence of a family member, thus, necessitating that a family member stayed with him over-night on the ward, contrary to the usual policy/practice in the Psychiatry Ward. After 5 days, the patient had to be transferred to the Pediatric Ward by a special arrangement, on account of repeated assault from older co-patients who also had mental and behavioural disorders.

A review of diagnosis was made within the first week of admission, during which mood symptoms dominated the picture. The diagnosis was changed to Bipolar Disorder - current episode mania using the DSM IV criteria for adults BD as a guide. Review of medications was also necessitated by occurrence of dystonic reactions which emerged after 5 days on Chlorpromazine. Medications were changed to per-os olanzapine 2.5mg b.d. and sodium valproate 20mg/kg. Intramuscular olanzapine 2.5mg 12 hourly was also given as required to control over activity and agitated behaviour.

Manic symptoms regressed significantly after two weeks on admission. However, the parents applied for discharge against medical advice after about two weeks of admission on account of what the father described as "psychological, physical and financial toll" of the hospitalisation. He was then discharged to the Child Psychiatry Out-patient Clinic where he attained full remission 3 weeks post-discharge. During the period that the illness lasted, the patient had to stay out of school and away from his friends and family.

### **DISCUSSION**

Literature on pre-pubertal BD is scarce in sub-Saharan Africa and to our knowledge; this is the youngest age that bipolar disorder has been reported in Nigeria.

### Diagnostic Challenges

Probably, the most controversial diagnostic entity in Child and Adolescent Psychiatry is pre-adolescent BD and recent articles with instructive titles like "The Healthcare Crisis of Childhood Onset Bipolar Illness...." and "Controversies in Childhood Bipolar Disorders" underscores this point.<sup>9,10</sup> At the core of the controversies surrounding pre-adolescent BD are the challenges posed by the lack of a widely acceptable diagnostic criteria for the disorder. Complicating this is the frequent overlap of the symptoms of pre-adolescent mania with many other childhood-onset psychiatric disorders, most of which also co-occur with the disorder. For instance, Geller, *et al*, found no significant differences between pre-adolescent BP and Attention Deficit Hyperkinetic Disorder (ADHD) in the rates of irritability, pressured speech, distractibility or increased energy as a symptom.<sup>11</sup> Likewise, children with disruptive behaviour disorders can also have periods of intense irritability, mood swings and aggressive outbursts.<sup>12</sup>

The introduction of a diagnostic subtype of pre-adolescent BD designated as "not otherwise specified", reserved for cases that are less intense or too short to meet full criteria or those with severe, chronic temper outbursts without clear or distinct manic symptoms arguably brings a new dimension into the controversy by introducing further ambiguity into the subject.<sup>13</sup> In the reported case, however, there were distinct manic symptoms (like increased energy, grandiosity and increased talkativeness) that were intense and prolonged enough to justify the diagnosis of BD. Therefore, the initial diagnosis of brief psychotic disorder by the admitting registrar in the reported case despite prominent mood symptoms in the history may reflect the clinical obscurity of pre-pubertal BD, confounded by clinical unfamiliarity and low index of suspicion for the disorder in this region.

The eventual diagnosis of the patient in the reported case was based mainly on the available evidence from the history, serial mental state and balance of probabilities. For instance, irritability, though believed to be the hallmark of pre-adolescent mania can also be seen in other childhood mental disorders like ADHD, disruptive behaviour disorder and schizophrenia.<sup>13,14,15</sup> But, the acute onset of irritability and its persistent and explosive nature, with associated physical and verbal aggression as seen in the reported case, are pointers to a diagnosis of mania above other differential diagnoses.<sup>16</sup> In addition, psychotic symptoms are more common in pre-adolescent BD than the later onset variant and may be clinically indistinguishable from childhood brief psychotic disorders or schizophrenia.<sup>17</sup> However, grandiose delusions as seen in the reported case are infrequent in childhood schizophrenia.<sup>18</sup> Also, though patients with mania or ADHD may have rapid speech in common, elation and grandiose delusions as seen in the reported case are not features of ADHD.<sup>19</sup>

Other potential sources of mis-diagnosis in pre-adolescent BD include the challenge of differentiating age-appropriate extremes of over-activity, grand-power fantasies and general exuberance of childhood from clinical grandiosity and elation.<sup>21,22</sup> The intensity of the grandiosity and its contextual inappropriateness in the reported case was used as the measure of the clinical significance of the symptom. The behavioural symptoms of the post-ictal phase of childhood epilepsy can also be confused with pre-adolescent BD, but the symptoms are usually short-lived and there may be a pre-existing history of seizures.

Though the EEG which was done to investigate for possible seizure activities in the patient showed abnormal waves, they were not epileptiform in nature. Non-epileptiform EEG abnormalities are not uncommon in children their presence may

provide evidence of non-specific brain dysfunction and may be related to a number of disorders affecting the brain.<sup>23</sup>

It was difficult to specify the predisposing factor for pre-adolescent BD in the reported case due to paucity of verifiable information. While it is known that the risk of pre-adolescent BD increases sharply when family history of pre-adolescent or adult BD combines with peri-natal complications including severe hyper-bilirubinaemia, the level of neonatal hyper-bilirubinaemia in the reported case was not known and the exact type of childhood mental disorder that the father had could not be ascertained.<sup>24</sup>

### Treatment

Pharmacologic treatment is the mainstay of initial treatment of pre-adolescent BD. In the acute manic phase like the reported case, mono-therapy with mood stabilizers or atypical anti-psychotics is recommended.<sup>12,22</sup> Combination therapy, as used in this case is allowed in cases where response is slow. The initial choice of chlorpromazine in the reported case was based on its sedating properties and the initial thought that patient had a primary psychotic illness.

The goal of pharmacotherapy was to control the manic symptoms and pave way for psycho-therapeutic interventions including psycho-education, social skills training, role-play, behavioural therapy and family therapy that should follow.<sup>12,22</sup>

### Preparedness of facilities in the developing world

The significant management problems encountered in the index case in terms of lack of a separate child and adolescent mental-health ward and inadequate human resources further exposes the state of preparedness of health facilities in this part of the world for the current and future challenges of in-patient child and adolescent mental health care. The same applies to the decision of the parents to discharge the patient against medical advice,

as we suspect that this may be connected with lack of appropriate facilities for parents to board, out-of-pocket payments and lack of social welfare support for families.

### CONCLUSION

Though scarcely reported in this region, the present case suggests that pre-adolescent BD cuts across regions of the world including sub-Sahara Africa. There is however, a need for further studies in this region to ascertain its prevalence, course and outcome. There is even a greater need for appropriate and child friendly facilities to handle such care intensive disorders.

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