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Case Report

Bipolar Disorder with History of Physical Abuse and Comorbid Polycythemia Vera: a Case Report

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Abstract

Introductions: Based on a 2015 United Nations Children's Fund (UNICEF) report, violence against children is widespread in Indonesia; 40% of 13–15-year-old children reported being physically assaulted at least once a year, 26% reported being physically abused by a parent or caregiver, and 50% reported being bullied at school. **Case:** A 23-year-old female patient, Hindu, Balinese, unmarried, and unemployed, came alone to the psychiatric polyclinic of Wangaya Hospital. From history taking, there was dizziness, anhedonia, impaired attention, reduced self-esteem and confidence, guilt and uselessness, reference ideas, somatic delusions, relationship mood, logorrhea and flight of ideas, a history of mixed-type insomnia, and excessive energy. In a general examination, there were icteric sclera and palpable enlargement of the spleen (Schuffner 4). Neurological examination within normal limits. **Discussion:** The patient has bipolar disorder, caused by a traumatic experience in childhood. The patient was found to have a history of repeated treatment; she was initially diagnosed with bipolar disorder and received Depakote 250 mg and Clobazam 10 mg. Then, the patient came for treatment again at Wangaya Hospital on August 30, 2021, because of a headache and was diagnosed with bipolar affective disorder, with the current episode being moderately depressive with somatic symptoms. **Conclusion:** Traumatic childhood events are a risk factor for bipolar disorder. In addition to poor clinical presentation, the early onset of bipolar disorder is also an aggravating factor for symptom recurrence. Polycythemia vera can be a complicating factor in the recovery and relapse of bipolar disorder.

Keywords: Physical abuse, Polycythemia vera, Bipolar, Relapse

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Introductions

The repeated infliction of physical or emotional harm on a child by parents or other adults—often through pressure, excessive corporal punishment, humiliation, ridicule, or sexual violence—is what defines child abuse. These acts violate the law and endanger children both physically and psychologically [1]. In the United States (US), 27% of women and 5% of men were estimated to experience sexual violence or as victims of assault before 18 years old, and around 11% of men and 8% of women experienced physical violence before 18 years old [2]. In 2018, an estimated 678.000 children were identified as victims of various forms of child abuse; more than 10% were victims of physical violence; infant death accounts for almost half of 1,770 deaths in a year [3]. In 2015, UNICEF reported that violence against children was widespread in Indonesia; 40% of children aged 13–15 years have been physically assaulted at least once a year; 26% of children reported having received physical punishment from their parents or caregivers at home; and 50% of children reported being bullied at school [4]. Various psychosocial factors, including negative self-perceptions, negative cognition, negative parenting, low socioeconomic status, and a history of abuse, are associated with bipolar spectrum disorder in youth. Early experiences of physical and sexual violence can cause permanent changes in the hypothalamic-pituitary-adrenal axis, hippocampus, norepinephrine and cortisol systems, leading to increased stress sensitivity and difficulty with emotion regulation. Childhood abuse is also associated with variations in onset, natural history, and features of bipolar disorder [5].

Bipolar disorder (BD) is a severe mood disorder characterized by episodes of mania and major depression [6]. BD are chronic and recurring illnesses that afflict more than 1% of the world's population. The incidence of BD is roughly 4% of the adult population, but may reach 6.5% if minor and atypical forms are included [7]. Patients with elevated moods exhibit expansiveness, flight of ideas, sleep deprivation, and grandiose ideas. Patients with a depressed mood experience loss of energy and interest, guilt feelings, concentration difficulties, loss of appetite, and death or suicide thoughts. Signs and symptoms of other mood disorders include changes in activity, cognitive abilities, speech, and vegetative functions (e.g., sleep, appetite, sexual activity, and other biological rhythms). This disorder almost always results in impaired interpersonal, social, and occupational functions. Patients with only major depressive episodes are categorized as having major depressive disorder or unipolar depression. A patient with both manic and depressive episodes or only episodes of mania is categorized as having bipolar disorder [8]. The Beck Depression Inventory (BDI) is a 21-item, multiple-choice questionnaire created by Aaron T. Beck, MD. It is recognized as one of the most popular and widely used psychometric tests to measure various levels of depression [9]. The Hamilton Depression Rating Scale (HDRS) is the most commonly used scale for evaluating the treatment of depressed patients. The HDRS was originally published in 1960 and has become the gold standard for the assessment of depression [10]. One of the most common design metrics for assessing the severity of mania symptoms is the Young Mania Rating Scale (YMRS), which was developed based on the description of the main symptoms of mania. The YMRS assesses the severity of mania symptoms according to the patient's subjective report of the clinical situation as well as the doctor's observation during the interview [11].

The World Health Organization (WHO) has classified myeloproliferative neoplasms (MPN) into four main disorders: chronic myelogenous leukemia, polycythemia rubra vera, essential (primary) thrombocythemia, primary myelofibrosis, which is known as agnogenic myelofibrosis with myeloid metaplasia, and chronic idiopathic myelofibrosis [12]. Polycythemia vera (PV)

is a myeloproliferative neoplasm disease that cannot be cured, but its disorders can be managed. The incidence of MPN was 0.6–1.6 million people in the US. This disease can occur at any age, but is more common in older people and rarely in young children. The number of white blood cells, red blood cells and platelets increases due to an acquired mutation in the bone marrow stem cells. When cells mutate, hematopoiesis becomes uncontrolled and results in abnormal bleeding and blood clots, which increase the risk of pulmonary embolism, heart attack, splenomegaly, and stroke [13].

Its general symptoms are usually non-specific and consist of fatigue, headache, dizziness, temporary blurred vision, amaurosis fugax and other symptoms indicating a transient ischemic attack. Patients may complain of pruritus after a warm bath, especially on the back, although this condition is rare. A history of epistaxis, gastrointestinal bleeding or easy bruising may also occur. Peptic ulcer disease commonly coexists, and patients may present with nonspecific abdominal pain. Pain in the left hypochondria and early satiety should raise the suspicion of splenomegaly. Patients may present with a history of unexplained thrombotic complications, such as Budd-Chiari syndrome or finger infarction, although these symptoms are rare. It is important to obtain a history of specific etiology, such as a history of smoking, a long stay at high altitude, or congenital heart disease. Patients with hemoglobinopathies may have a significant family history [14].

The pathophysiology of the psychiatric events in PV is unknown, but there are two mechanisms that arise due to blood hyperviscosity: 1) slow blood flow with hypoxia; and 2) multiple thrombosis and spread to the central nervous system [15]. The patient with MPN also has a high probability of associated mood disorders, including symptoms of depression and anxiety [16]. Depressive symptoms are commonly observed in patients with chronic medical conditions, including cardiovascular disease or chronic disease. The relationship between depression and chronic medical disorders may be bidirectional, with each contributing either to the development or severity of the other. One international study reported that 60% of patients with MPN had “some level of depression” within the past month, and one in five patients reported its impact [17]. A cross-sectional study by McFarland et al., (2016) found 40% patients met distress screening criteria, 31% met anxiety criteria, and 12.5% met depression criteria [18].

The main goal of PV therapy is to prevent thrombosis. Management of low-risk PV patients consists of antiplatelet therapy and phlebotomy to achieve a target hemocrit (HCT) below 45%. Management of high-risk PV patients consists of anti-platelet, phlebotomy, and cytoreductive treatment to achieve a target HCT below 45% [19]. Treatment of psychiatric symptoms in PV is refractory to psychiatric treatment and responsive to hematological treatment. Therefore, good hematological management may control the mental state, avoid the side effects of psychiatric treatment, and prevent complications of PV [20]. This case report showed the impact of physical violence on bipolar disorder and the presence of polycythemia vera as an aggravating factor.

Case

A 23-year-old female patient, Hindu, Balinese, unmarried, and unemployed, came alone to the psychiatric polyclinic Wangaya Hospital Denpasar Bali on August 30th, 2021. The patient came with an untidy appearance, wearing a mask, and hair that looked not neatly combed and was partially dyed brown. Her facial expressions looked sad, and she was crying during the interview. Her voice volume was low, and her intonation was slow. She answered the questions with lots of additions, accompanied by a flight of thought. She also complained of occasional headaches and often had an intermittent sad feeling. Her stomach

would hurt every time she felt upset. When sad, the patient experienced loss of interest and joy, disturbed attention and concentration, and significant weight loss over the last few months. Reduced self-esteem and self-confidence, resulting in spending time in the mirror to check how she looks, often feeling guilty and useless for not working. The patient once imitated the personality of the Korean artist as her own a year ago. The patient also experienced an excessive feeling of happiness. She has often joked with her friends and was told that she talked a lot. In conversations with friends, the patient has often said to change the topics of conversation, thus making her friends tired of listening to her. The patient has often done excessive activities and feels energetic; thus, she has been unable to sleep for several days. The patient has been dealing with these symptoms since May 2020, and they have lasted for a month. The patient has felt in a normal condition where her feelings are not excessively sad or happy and have lasted for about 2 weeks.

Previously, the patient was close to a man who worked in multi-level marketing and often sold the products to patients. The patient bought a lot and rarely uses the products, so there is a lot of stuff left because they are not used. In addition, patients also bought "gems" in the Mobile Legend game and used all of their savings. The patient thought that she could always be with him by buying and giving him anything he wanted. The patient has also lent money to the man and has never been reimbursed until now. This incident was experienced by the patient about a year ago, and she stopped communicating in May 2020.

The patient admitted that she was traumatized by her past. She has witnessed the fight between her mother and father since elementary school (in 2005). Her father has often been abusive. She saw her mother stepped on by her father when she was a child. The patient has always received harsh treatment from her father, such as being yelled at or beaten. Once, the father slapped her because she came home late from school extracurricular activities and did not inform him that the patient was participating in extracurricular activities. Since childhood, the patient has never been allowed to participate in any activities at school and must be picked up by their father or mother after school.

Before the patient was born, her father had an affair. The patient knows this from her mother. During senior high school, her father was caught dating her friend at the school. Her father is one of the teachers where she attends school. The patient had seen the father's motorcycle brought by her friend. Because of curiosity, the patient had asked her father about a motorcycle, but the patient's father did not admit it. The patient's father financially supported her friend until she graduated from senior high school. Two months later, the girl came to the patient's house and asked the patient's father to be responsible for her pregnancy. The patient's mother was disappointed by her father's actions, so she returned to her parents' house. After a few months, the village head held a meeting in front of all the local residents. The patient becomes traumatized because she is often bullied by neighbors. The patient's father attempted suicide by slashing her hands, and it was reported in the newspapers. Her mother came back to the house after hearing that news. After returning from the hospital, the patient's father repeatedly argued with her mother and decided to separate in 2016. The patient's father remarried in 2017 but has no children, but the patient's mother is not married. The patient and her older brother have been supported financially until now.

The patient has been treated by a psychiatrist since July 2020. She was diagnosed with bipolar disorder and received the drugs Depakote 250 mg and Clobazam 10 mg. Her therapy was changed to Sandepril and Clozapine 12.5 mg because there was no improvement in symptoms. It may be due to a lack of information about the polycythemia vera (PV) comorbidity in the

patient. The patient took her last medication on August 26th, 2021. After completing the treatment for six months, the patient continued the consultation with a psychiatrist. The patient stopped the consultation on January 20, 2022, because she felt the condition had improved.

The patient has had a history of PV, like her father, since 2020 and has an enlarged spleen. The patient's stomach had enlarged above the pubic symphysis, and this was realized by the patient's mother while she was sleeping. Initially, the patient only had an intermittent headache. She assumed that it was just a normal headache and was taken to sleep to relieve the pain. The patient often felt abdominal pain and thought it was gastritis. Then the patient checked her condition with internal medicine and carried out laboratory examinations and abdominal ultrasounds. From laboratory results, hemoglobin (Hb) was 18 g/dL, red blood cell (RBC) was 7.82 x 106/µL, hemocrit (HCT) was 56%, and erythropoietin was 2.5 mU/mL. Abdominal ultrasound examination results revealed splenomegaly. The bone marrow biopsy result showed marrow space with 70–80% hypercellular proliferation of granulocytes with maturation dominated by PMN neutrophils, bands, metamyelocytes and few eosinophils without blast cell count (<5%), dwarf megakaryocytes and decreased erythroid series. The internist advised her to receive a phlebotomy every month or spinal cord surgery. Because of financial issues, the patient chose a monthly phlebotomy and is still undergoing this procedure routinely.

On physical examination, vital signs and neurological status were within normal limits. On internal status, icteric sclera and Schuffner 4 (enlargement on the left side of the abdomen through the umbilicus) were found. Psychiatric status revealed an unnatural appearance, an untidy appearance, messy hair and partially dyed brown hair, sitting quietly and being able to answer all questions well, and good eye contact with the examiner. The patient was cooperative during the interview; the facial expression looked sad, the speech was spontaneous and smooth, the volume was small, the articulation was clear, the intonation was slow, and she answered with many additional answers accompanied by a flight of thoughts. The patient had a depressive mood and depressive affect and was quite coherent.

A history of anhedonia, attention disturbance, reduced self-esteem and self-confidence, guilt and uselessness, reference ideas, somatic delusions, elation mood, logorrhoea and flight of ideas, mixed-type insomnia, and excessive energy were found in this patient. The psychometric test revealed that the score of BDI was 18, HDRS was 20, and YMRS was 12. The patient had an insight score of 2, and the reality testing of ability found disturbances in the ability to judge reality. Patients received psychopharmacological therapy of valproic acid 250 mg twice daily and clobazam 10 mg once daily, as well as cognitive-behavior therapy and psychodynamic therapy. Patient: During receiving treatment for 1 year and 4 months, she had 2 relapses and was hospitalized because she didn't take medication regularly.

Discussions

The patient's traumatic experience is known to have an impact on long-term psychological changes. A history of childhood violence in adult bipolar is associated with the earlier age of disease onset [21]. Bipolar in this patient is triggered by traumatic experiences in childhood. The patient had bipolar symptoms, included depressive and hypomanic episodes. According to diagnostic criteria in the DSM-V for a major depressive episode, the patient should have five of several symptoms and the patient had a depressive mood, reduced interest and joy, reduced concentration, feelings of guilt and uselessness, and significant weight loss. The patient has had these symptoms since the last few months. And for hypomania episodes, there was a feeling of excessive happiness, excessive activity and not getting tired easily,

and accompanied by three of the symptoms, included a talkative, changing topics during the conversation, excessive spending, thus there are many unused items and she had lent money to other people [15].

In this case, there was a history of repeated treatment. The patient had been treated at a psychiatrist since July 2020. The patient had been treated by a psychiatrist since July 2020. She was diagnosed with bipolar and received the drugs Depakote 250 mg and Clobazam 10 mg. Her therapy was changed to Sandepril and clozapine 12.5 mg because there was no improvement of symptoms. It may due to lack of information about the polycythemia vera (PV) comorbid in patient. The patient took her last medication on August 26th, 2021. After completing the treatment for 6 months, the patient continued the consultation with a psychiatrist. Then, the patient came back for treatment to Wangaya hospital because of dizziness and was diagnosed with bipolar affective disorder, now moderate depression episode with somatic symptoms. Psychometric tests revealed the score of BDI was 18, HDRS was 20, YMRS was 12.

In this patient, PV was a comorbid of bipolar disorder. Major criteria for PV based on the WHO in 2016 were obtained in this patient, included Hb 18 g/dL, RBC 7.82 x106/µL, HCT 56%, and minor criteria, included erythropoietin 2.5 mU/mL. Bone marrow biopsy examination results revealed marrow space with 70-80% hypercellular with proliferation of granulocytes with maturation dominated by PMN neutrophils, bands, metamyelocytes and few eosinophils without blast cell count (<5%), dwarf megakaryocytes and decreased erythroid series. From physical symptoms, there was a history of headaches and abdominal pain. On general examination, there were icteric sclera and splenomegaly based on physical examination revealing Shuffner 4 and on ultrasound examination.

Conclusions

Physical violence is a form of violence in childhood that may result in unhealthy mental development, such as bipolar disorder. Traumatic childhood events are a risk factor for bipolar disorder. In addition to poor clinical presentation, the early onset of bipolar disorder is an aggravating factor for symptom recurrence.

Polycythemia vera is a myeloproliferative neoplasm disease that cannot be cured, but its disorders can be managed. Polycythaemia vera can be an aggravating factor in the recovery and recurrence of bipolar disorder.

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Conflict of Interest

We report no conflict of interest in this study.

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