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## Bipolar Disorder: Causes and Cure

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### Short Commentary

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### INTRODUCTION

Bipolar Disorder is a psychological disorder that causes frequent mood swings in the affected individuals. This disorder is mostly characterized by elevation in mood (mania) or depression. When a bipolar individual suffers from mania, the individual experiences heightened level of confidence, commits impulsive behavior, less sleep, need to do things that make them extremely happy or joyous and poor decision making takes over. During this period, the patients are highly active and energetic. However, this ebullient state is soon taken over by high irritability, anger and depression. During this phase of the cycle, the patients often feel suicidal and have low confidence in themselves. BD patients find it tough to concentrate and do not find any pleasure in doing things that they generally find pleasing.

There are two types of Bipolar disorder: Bipolar Disorder I and Bipolar Disorder II. Bipolar Disorder I is characterized by recurring manic and depressive episodes every day for a week. Bipolar Disorder II is characterized by major depressive episode and one episode of hypomania [1].

Scientists have researched and concluded that bipolar patients often have sleeping disorder. They experience insomnia during mania and hypersomnia during depressive episodes [2]. It has also been found that bipolar patients are more susceptible to have anxiety attacks [3]. BD patients are often suicidal. Researchers have found that negative affects with admixtures of features of anxiety and depression, combined with dysphoria, are both very common in first-episode psychotic disorders, are strongly associated with suicidal risk [4]. Pregnant women with bipolar disorder need to be taken utmost care of. No medication during pregnancy increases the risk of harmful effects of bipolar relapse and residual mood symptom-related dysfunction to the fetus. On the other hand, treating continuing medication may lead to congenital malformations in the baby [5]. Anja WMM Steven et al. have found that an increase in postpartum psychopathology leads to sleep disturbance during pregnancy and longer labor duration [6]. As every BD patient is affected differently by the disorder, a study conducted on Nigerian adolescents revealed that functional impairment complicate the disorder [7].

Recent studies to find the genetic basis of bipolar disorder has led to the conclusion by researchers that patients exposed to childhood trauma are more likely to develop bipolar disorder than those who are not exposed to childhood trauma [8]. Scientists have found that the glutamatergic genes are associated with BD [9]. Brain development and synaptic plasticity is directly affected by Glutamate signaling, both of which are modified in individuals with BD [10]. R Ramesar et al. have found that the glutamate receptor, metabotropic 3 or GRM3 G allele at rs6465084 carries a 4 times greater risk of developing psychosis in BD patients. Single Nucleotide Polymorphism in GRM3, GRIN2B, and DAOA genes has been found to be associated with BD [11]. A recent study revealed that impact of alcohol dependence recorded positive with a higher frequency of severe manic ( $p=0.02$ ) and depressive ( $p=0.0006$ ) records. A relationship between Sulfur amino acid metabolic process pathway and severe

depressive episodes in BD patients with alcohol dependence was also revealed by this study [12]. Microarray data using R statistics to find proteins that are expressed in bipolar disorder has provided probable biomarkers of the disease which could be developed as drug targets [13, 14].

Three types of medications are used for treating BD:

1. Mood Stabilizers are administered for stabilizing mood and for treating mania. These drugs are taken continuously to control the manic phase.

2. Atypical antipsychotic drugs are taken during the beginning of manic episodes for preventing it from progressing further.

3. Antidepressants are used along with Mood stabilisers for treating acute depression.

Asenapine, an antipsychotic drug, has shown effective results in treating chronic BD patients. It is rapidly absorbed and is used for treatment of mixed episodes of mania and depression in BD patients. However it is found to have side effects such as weight gain [15]. A comparative study of Ziprasidone with slow titration and rapid titration groups demonstrated positive effects on children with bipolar disorder [16]. Treatment of refractory BD patients with the combination of Lithium or valproate with aripiprazole, olanzapine, risperidone and quetiapine or asenapine has shown to be effective in BD patients [17-22]. Though the efficiency of Electroconvulsive Therapy (ECT) is still under investigation, Jennifer L Payne et al. have found that 1 in 4 patients treated with ECT switched from depressive mood to hypomania or mania [23]. In an 18 month placebo controlled study of lamotrigine versus lithium monotherapy it was found that depressive occurrences were 3-times more frequent than mania. It was also found that the number of patients who remained depression-free for 12 months was not significantly different for lamotrigine (57%) or lithium (46%) versus placebo (45%) [24]. Recent studies on atypical antipsychotics have also shown promising results [25]. There are guidelines for treating BP via mood stabilizer therapy and avoiding antidepressant medication, but they have not been prospectively implemented [26, 27]. Metabolic alterations occurs in BD patients using antipsychotic medication [28]. DTI or Diffused Tensor Imaging, serves as a suitable technology for neurological characterization of bipolar disorder patients with cocaine dependence, however more study and expertise is required [29]. A recent study has revealed that enrolment in a psychosocial care program reduces the consumption of ambulatory care facilities such as psychiatric care [30].

## CONCLUSION

Treating bipolar disorder involves not only medication and counseling but also the love and care of close relatives or friends [31]. It is importance to identify and treat BP affected patients at the onset of the disorder [32]. Non-psychotic deviant behaviour is an early sign of bipolar disorder [33]. Patients should take care of their diet and lifestyle. Eating healthy and light food, avoiding alcohol, getting proper sleep, keeping away from unhealthy relationships and regular exercising or yoga helps improve the mood swings in BD patients [34]. It is as important that BD patients should take care of their manic attacks and depressive episodes as is the understanding, patients, affection and help of the BD patient's therapist and loved ones. Encouraging them to take up new and positive habits, listening without questioning or judging, convincing them out of suicidal thoughts and by gently pointing out the realities as well offering hope [35]. Support organizations, family mental health counselors, and other mental health facilities educate affected families, which helps them to understand the patients [36]. Herbal Medicine and poetry as a treatment for Bipolar Disorder has shown fruitful result [37-39]. In conclusion, realizing and acknowledging the illness with proper medication and changes in lifestyle and the will to overcome the illness is the only treatment with no side effects [40].

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