

DSM IV TR Diagnosis: Bipolar Disorder

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Abstract

This paper discusses the etiology, criteria, and treatment options available for Bipolar Disorder. Not much is known about the exact creation of the gene for the disorder, but the mapping of chromosome twenty has shown an allele in those with a family history of the disorder. However, research has shown that events such as psychosocial stress and certain medications can cause the brain's neurochemistry to change, thus creating the etiology of symptom onset. Research has also shown that certain regions of the brain are reduced in volume along with significant down regulation of serotonin and dopamine receptors in those regions compared to healthy unaffected brains. While a dismal picture has been painted for this disorder, hope in the form of medications and therapeutic interventions have been created and tested so the afflicted has an excellent percentage of living a normal life so long as they are under the careful watch of a doctor.

Keywords: Medications; Therapy; Chromosome; Disorder; Bipolar; Healthy; Brain; Region

Introduction

Bipolar Disorder, once known as Manic Depressive Bipolar Disorder many years ago, is a class of mental disorders that have no identified hereditary explanation much like Schizophrenia, Schizoaffective, Delusional, Psychotic, and other related mental disorders. However, it has been discovered that on chromosome twenty, an allele for the disorder can be found for those with a family history of the Bipolar Disorder [1]. Much like other related mental disorders, there isn't a clear cut explanation that explains the exact gene sequencing that creates the disorder.

Since the discovery of this and many other mental disorders, much research has gone into figuring out what exactly creates the gene for this disorder and what it will take to treat it. Many treatment options, criteria of the disorder, and the etiology of symptom onset have been developed to give those unfortunately suffering with the disorder a chance to live a normal life, despite their illness. For the longest, mental disorders have been labeled impossible to treat, but hope has been created, tested, and are available to those who are in need [2].

To understand Bipolar Disorder, it is best to understand the criteria of Bipolar and know how to recognize it. The exact gene etiology of Bipolar Disorder, as stated before, isn't exactly known, but the mapping of chromosome twenty has given evidence that those with a family history of Bipolar disorder can inherit the gene from the affected parent. The gene can be passed down, but the first and second born offspring doesn't have to exactly inherit the illness, but yet, makes them vulnerable for the illness none the less. A pedigree of one's family history can be mapped out to determine exactly what child of the parent(s) will fully inherit the disorder [1].

The phases of bipolar

Bipolar Disorder can be recognized in the following three phases: Bipolar I, Bipolar II, and Cyclothymia disorder and the typical age of onset for the disorder is around the early twenties. With each stage having its own set of symptoms, it is best to recognize the exact symptoms so not to confuse one stage with another as some of the symptoms with one stage do appear in another stage of the disorder.

Starting with Bipolar I, the DSM IV code for this segment of the disorder is 296 and the criteria to diagnose someone in the phase of the disorder is as follows: having had at least one manic episode that has lasted the duration of seven days with elated mood not caused by substances/medications, flight of ideas, decreased need for sleep, grandiose self-esteem, risk taking behaviors, and pressured talkative

speech bouts. Within this criterion, depressive and hypomanic episodes are normally not accounted for, but have a high percentage of occurring during this phase over the lifetime of the illness [2,3]. This form of bipolar affects men and women equally and in order for this phase of the disorder to be fully diagnosable in addition to the criterion, important areas of significant functioning such as work, social, and/or school functioning must be affected greatly to the point of impairment and/or requires hospitalization for the protection of one's self and others from the severe psychosis of the disorder [2]. This stage of Bipolar is considered to be the most dangerous of the three stages and requires one to remain under constant care of a doctor as the individual is at risk of hurting themselves and others. With depressive and hypomania episodes absent from Bipolar I stage, they are a part of Bipolar II.

Bipolar II is the exact opposite of its more intense counterpart and the criterion for this phase is as follows: absence of manic episodes with no guarantee that one will occur over the lifetime of the illness, at least one hypomanic episode that has lasted for no longer than four days, and one or more major depressive episodes that has occurred within the past six months. For the major depressive episode(s) that occur in this phase of Bipolar are as outlined in the DSM IV diagnostic criteria: episodes last two weeks (six months if left untreated), feelings of worthlessness, lack of motivation, loss of interests in activities, avoiding the public and staying confined to one's house or space, thoughts/feelings of suicide, significant distress or impairment within social and personal relationships, and disturbances in sleep and/or appetite. The diagnostic code for this phase of the disorder is 296.89 and affects women more than men [2,3].

Within the last of the Bipolar 'versions' is the Cyclothymia stage with a diagnostic code of 301.13. This stage of the disorder is very different from its previous counterparts and has a much more different criteria than that of Bipolar I and Bipolar II stages. According to the criteria of Cyclothymia disorder, the following symptoms must be present or recently experienced in order for a diagnosis of this stage to be made: the presence of hypomanic and depressive symptoms over a two years period, but do not fall under the criteria of Major Depressive Disorder, no major depressive, manic, or mixed episodes during the first two years of the onset of the mood disturbances, and the symptoms of this disorder are not due to direct physiological effects of a substance or general medical condition [3]. However, after the initial two year period of the onset of Cyclothymia, there may be a period of a superimposed manic or depressive episode that occurs and the diagnosis of both Bipolar II and Cyclothymia disorder occurs [2].

Biological and psychosocial influences

Now that the different stages of Bipolar have been explained, the etiology of what triggers the onset of Bipolar will be discussed so to understand what can cause the initial onset of symptoms. Many years ago, understanding what the illness was, how to diagnose it, and treat the psychotic symptoms was once an easy task by just having a good prognosis, but since the rise of the numerous stages of bipolar disorder, much research has been conducted to understand the exact etiology of the symptoms that arise from each stage [4]. Continuous research on the etiology of symptoms has all lead to major psychosocial stressors as causing the onset of symptoms, whether a manic, hypomanic, or depressive episode occurred first. Certain life events (and episodes themselves) leave behind long-lasting vulnerabilities (i.e., changes in neurotransmitter, receptor, and neuro-peptide functioning) that mediate increased reactivity to subsequent stressors, resulting in new episodes that require very little or no "stress" as provoking agents [4].

When the Bipolar brain is exposed to a stressor and is one undergoing the systematic change to either stage of bipolar, MRI scans have outline that significant impairment in the following brain regions have shown reduced volume: temporal lobe, hippocampus, and the frontal cortex. With the temporal lobe, hippocampus and frontal cortex brain regions decreased in size, serotonin and dopamine receptors are down regulated in these areas due to the insufficient flow of blood and neurotransmitters in the synaptic spaces, suggesting that the disorder has a progressive grey matter degenerative effect [5]. The one area of the brain that was found to be of significant interest is that the amygdale of those with Bipolar and Schizophrenia are more active and slightly enlarged. This is due to the excessive aggression that accompanies the symptoms of either stage of bipolar, but is seen more in those in the manic phase.

While psychosocial stressors have been targeted as being the main etiology of symptom onset, research has found that certain pharmacological drugs such as anti-depressants have also played a role in creating "internal stressors" that trigger the disorder symptom onset [5]. Due to these certain medical agents, episodes then develop an autonomous course which can lead episodes to occurring rapidly and daily in the absence of major psychosocial stressors. However, a question regarding these findings is what leads to the autonomous

course of these episodes after one has taken the drug to treat their symptoms. The answer is that the bipolar brain has become sensitive to the chemicals of the drug, thus reducing the effectiveness of what the drug was taken for. The SSRI drug of choice significantly changes the neurochemistry of the brain, which in turn, creates reoccurring episodes [5].

Pharmaceutical treatments for bipolar

While research have discovered that taking certain medications can lead to such unfortunate events, numerous other pharmacological treatments have been researched and tested thoroughly to prevent episode reoccurrence despite neuro-sensitivity. However it is important to note that upon the administration of any medication prescribed for the treatment of Bipolar disorder, the main goals for the doctor to be able treat the disorder effectively are reduction of symptoms, decreasing the frequency/prevention of reoccurring episodes, and most importantly optimizing the patient's functioning under the drug's treatment. Depending on the medications that are selected to treat any one of the spectrum's stages, the patient is required to get hematological labs done frequently in order to monitor the drug percentage in the blood. For the drug to work to its maximum potential there must be a certain percentage of the drug in the blood plasma present per micro liter of blood. The one detail that must be monitored at all times in the patient during the course of the chosen drug of administration is the presence/absence of Agranulocytosis as this can be fatal to the patient's physical health [2].

One drug in particular that has been named the "golden standard" in the treatment of Bipolar is Lithium. Upon testing lithium as a treatment option, it was discovered that the drug crossed the blood-brain barrier slowly and incompletely, but is effective in balancing the sodium molecules in the brain and reducing the constant firing of the neurons in certain brain regions affected by the disorder. The drug is a once a day treatment with a half life of eighteen to twenty four hours and because the drug is pure sodium, certain toxic side effects of the drug can affect the internal organs, particularly the kidneys as they can shut down due to the pure sodium intake. The drug is also at risk of creating extra-pyramidal side effects that mimic Tardive Dyskinesia such as hand tremors, symptoms, and uncontrollable jerky eye movements. Other side effects associated with lithium are polyuria, inhibited vasopressin, dry mouth, and permanent kidney damage. While kidney damage can be a rarity, it is within the doctor's and patient's best interest to monitor kidney function as permanent damage, while rare, can still occur over the course of the drug administration [2,6].

Memory and cognitive impairments have also been recorded and is the number one reason for discontinued use among patients taking the drug. The consistent findings have found that information shifting from short term memory to long term memory and retrieval of information from the long term memory are due to the drug's adjustment in the body [6]. While it is ill advised to stop taking this and any other drug treatment for this disorder against doctor's orders, patients who are experiencing this and many other side effects discontinue use.

Even though lithium has been labeled as the number one treatment option for Bipolar, due to the elevated risk of damage posed to the internal organs, lithium has become a drug of the past while newer medications have moved to the scene. Other medical agents have been developed that are just as effective as lithium, only with fewer side effects and a significantly reduced rate of relapse into an episode. Olanzapine (Zyprexa), Carbamazepine (Tegretol), Oxcarbazepine (Trileptol), Quetiapine (Seroquel XR), Aripiprazole (Ablify) are second generation atypical anti-psychotics that have replaced lithium in the early 1990's and has a near perfect record of significant improvement of the patient's symptoms and increase in the reduced volume areas of the brain affected by the disorder [5]. While these SGA's have been recorded to markedly improve the patient's symptoms, numerous SSRI's can be used in combination with these drugs to help improve one's mental functioning: Paroxetine (Paxil), Fluoxetine (Prozac), and Bupropion (Wellbutrin) [2,5].

Given that Bipolar Disorder is a lifetime illness, the therapeutic relationship between the patient and the doctor is extremely important for establishing a solid treatment ground. Within the early stages of the treatment, it is important that the doctor inform the patient of several pieces of information concerning their illness and those are the course of the illness, confidentiality of the therapy sessions the patient will be receiving, the need to provide a contact person whom can provide additional information concerning the patient, and discuss potential issues that can arise concerning the treatment expectations, both beneficial and the limitations [2]. However, because the treatment plans for Bipolar can be a complex one, several important factors must be taken into consideration before and upon administration

of medical treatment and those factors are: assessment, statement of treatment goals, the forgoing of therapeutic alliance, intense monitoring of psychosocial and psychotic behaviors, and the close monitoring of the medication administered [7]. Even with careful planning of the proper interventions, potential issues with the disorder can arise such as trying to determine the rightful treatment for any one of the three stages, investigation on the levels of distress, environmental dysfunction in the home or work place, functioning in interpersonal relationships, history of medical illnesses in the family, and a possible risk that person is to the self and others. In youth diagnosed with Bipolar, according to Chung, *et al.* [7], is the perfect opportunity to possibly catch and treat the illness early so to be able to control the symptoms before significant impairment in life becomes a problem. Caregivers of youth with Bipolar have reported significant distress with managing the mental health needs of their child due to the barriers in treatment. Some caregivers have reported that the treatment was not what they were told it would be, treatment wasn't efficient, and/or the therapist didn't match the efforts of what their child needed, creating a significantly high rate of therapeutic drop outs [7]. However, once the barriers of treatment have been recognized, the caregiver and therapist can create a plan to disseminate those barriers so to get the results sought after. As the youth patient progresses to adulthood while under the proper doctor's care, the symptoms will have a reduced rate of spiraling out of control. The baseline for the overall treatment of the disorder is that if the disorder isn't caught early enough and a treatment plan isn't formulated in a timely manner, the need for hospitalization is usually required until the proper treatment plan can be formulated.

Conclusion

Even though lithium has been labeled as the number one treatment option for Bipolar, due to the elevated risk of damage posed to the internal organs, lithium has become a drug of the past while newer medications have moved to the scene. Other medical agents have been developed that are just as effective as lithium, only with fewer side effects and a significantly reduced rate of relapse into an episode. Olanzapine (Zyprexa), Carbamazepine (Tegretol), Oxcarbazepine (Trileptol), Quetiapine (Seroquel XR), Aripiprazole (Ablify) are second generation atypical anti-psychotics that have replaced lithium in the early 1990's and has a near perfect record of significant improvement of the patient's symptoms and increase in the reduced volume areas of the brain affected by the disorder [5]. While these SGA's have been recorded to markedly improve the patient's symptoms, numerous SSRI's can be used in combination with these drugs to help improve one's mental functioning: Paroxetine (Paxil), Fluoxetine (Prozac), and Bupropion (Wellbutrin) [2,5].

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