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A Review of Bipolar Disorders

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ABSTRACT

Bipolar disorder is a chronic mental disease and affects more than 1% globally. It causes sudden change in person's mood and energy and also causes disability to think clearly. Bipolar disorder is caused by imbalance in neurotransmitter and also due to genetic and environmental factors. Bipolar disorder makes person prone to diabetes, cardiovascular and metabolic syndrome. In medical field early diagnosis is rare as nonspecific symptoms or rapid change in mood is characteristic and also biomarkers are not available for bipolar disorder. Depression being the key characteristic increases the risk of suicide. According to the survey by SMR suicides due to bipolar disorder in about 20 times than general population rate. There should be the presence of both nonpsychiatric and psychiatric medical professionals simultaneously. It is said that lithium is usually used so that the risk of suicide can be reduced. There are many symptoms that can be seen in a bipolar disorder patient like stress, hypomania and mania. It is also seen that patient and also their families are reluctant and not in a state to understand importance of symptoms and specially symptoms of hypomania or mania. There is also an urgent need of correct and perfect medication of this problem and also the main problem is no study or research on bipolar disorder could find the exact or correct treatment for bipolar disorder and resulting in treatment going lifelong and with combination of medications and psychotherapy. Therefore it is necessary that there should be early diagnosis and early treatment including evidence based treatment of the patient with proper psychosocial strategies. Evidence based medication usually include mood stabilizers and antipsychotics.

Key words: Bipolar disorder, Stress, Suicide, Mania, Depression, Disability, Hypomania

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INTRODUCTION

Bipolar disorder and unipolar disorder comes under disorders known as affective disorders also called as mood disorders where mood is known as persisting feelings or emotions that are seen in behaviour of person and it affects perception of that person. Bipolar disorder is major health issue in public and can be seen in a large portion of population. About 25 % of people suffering from bipolar disorder attempt suicide. The main issue for bipolar disorder patient is inadequate treatment knowing the fact that depression is still under treatment. Bipolar disorder can be divided into two major groups depending on severity.

1) Bipolar disorder I

2) Bipolar disorder II

Prolonged mania and depression episodes causing critical impairments like pyschosis can be seen during bipolar disorder I. whereas depression and hypomania which are not that critical enough to cause impairments or require to get hospitalized are symptoms of type II. About 3.9 % of general population with having a range of 1.5 to 6 percent has bipolar disorder. Family history is one of the most important criteria for bipolar disorder patient. Some other factors that can be included are smoking, environment factors, moreover antidepressants that are consumed by youth is also a risk. Progress can be seen as more pharmacological options are present now and also psychotherapy, psychoeducation are been used now. Proper diagnosis, diagnosis on right time with effective and correct short as well as long term treatment are essential for depressive episodes in bipolar disorder but there are no proper facilities to do the same. There are clinical challenges to be faced during the diagnosis and treatment. There is also a shortage of resources or expertise which may also lead to many patients not receiving proper evaluation for bipolar disorder. There are many factors that cause bipolar disorder like biological factors that

include genetic factors second messengers and many more, psychological factors. High rate of recurrence and relapse is seen to be characteristic of natural course of bipolar disorder. For proper evaluation laboratory tests like TSH, CBC, and ESR are also done in bipolar disorder. Head imaging is also done in early course of evaluation. But it is also seen that time span of mood episodes is mostly different in different patients and also different in that patient over a period of time. To understand the concept of how different factors are related to brain cells, circuits and also their structures it is important to get advanced in mood disorder prevention research. It is seen that in patients are initially misdiagnosed and can also be misdiagnosed till approximately till ten years are actually suffering from bipolar disorder.

EPIDEMIOLOGY

It is seen that in a population the widespread presence of bipolar I for the whole life is about 1%. [1]. Bipolar disorder I is observed to start at about age 18 whereas bipolar disorder II at 22 age [2]. A survey on about 11 countries have be recorded and showed that lifetime presence of bipolar spectrum disorder is about 2-3% and bipolar disorder II is about 0.4% [3]. A study by MDQ shows prevalence of about 3.7% [4]. In the study by members of DBSA it showed more than half patients didn't try to get medical care of about 5 years and also about average 8 years to get right diagnosis after trying to get proper medical care or attention [5]. It is seen that patients suffering from mood disorders have a high tendency to commit suicide and also males and females have equal chance of suffering from bipolar I but women are more prone to bipolar II as compared to males. Also having higher chances of bipolar disorder in unmarried people [6]. If a patient is diagnosed wrongly then this may lead to patient suffering from high losses and getting wrong treatment. This is also true that bipolar disorder is not related with social or population structure factors and also has no associations with socioeconomic status. It is seen that almost one patient out of three patients attempt suicide and in which approximately 15-20% of these suicidal attempts get successful.

ETIOLOGY AND PATHOPHYSIOLOGY

There are a variety of factors that can cause bipolar disorder like:

Genetic factors

There is a huge risk of suffering from bipolar depression or problem of about 10-25% if one of the parents has mood disorder. Though there is no single hypothesis to bring together biochemical, pharmacological, genetic, and anatomical data on bipolar disorder [7].

Biogenic amines

Improper regulation of neurotransmitters like dopamine, norepinephrine and serotonin can also be the reason for bipolar disorder [8]. Studies of biochemical and pharmacology made a conclusion that bipolar disorder and mainly mania is a cause of depleted secretion of catecholamine. Whereas norepinephrine is mainly for depression.

Neuroanatomy

There are important areas for conditions of response, regulation of emotions and response to stimulus like anterior cingulated cortex, hippocampus, amygdala, prefrontal cortex. And it is observed that lesions in temporal and frontal lobes are often related to bipolar disorder. And depression related to left sided lesions whereas mania associated to right side lesions.

Second Messenger

Mood stabilizers target guanine binding nucleoproteins. They form cyclic adenosine monophosphate by interacting with receptor present in membrane. Therefore there is regulation of neuronal membrane channels [9].

Pathophysiology of bipolar disorder is completely not known but studies shows bipolar disorder to be a heritable disorder. However there are multiple factors like environment, circadian rhythm responsible for bipolar disorder. Almost as high as 85% cause is heritability [10]. Neurotrophic molecules like BDNF have a function of signalling pathway of neural plasticity and dendritic sprouting [11].

Catechol-O-methyltransferase gene has a function to control dopamine metabolism is also related to bipolar disorder.

DIAGNOSIS

It is very difficult to diagnose bipolar disorder and often leads too long delayed diagnosis. Correct diagnosis includes assessment with patient and their relatives so that they can understand the duration of disorder. Correct diagnosis and correct treatment usually is not provided for around 6-8 years and also may last longer. Diagnosis is usually delayed because of non-cooperation from family and close friends. Most common feature of bipolar disorder I is mania is usually diagnosed when there unusual behaviour by patient like irritable mood, doing goal directed activities which persist for more than a couple of days. There are also many more symptoms like less need for sleep, distraction and not having ability to focus on one topic, talking too much and fast, feet tapping, trying to take danger or adventure . Bipolar disorder always be diagnosed differentially because 3.9% patient usually get converted to bipolar I whereas almost 8.6% to bipolar II [12]. Hypomania is usually a common feature between bipolar I, bipolar II and cyclothymia. Weight change, depressed mood, guilt ridden, feeling restless are symptoms that persist for more than two weeks and causes disturbance in social and occupational places. Fear to seek advice, avoid to report to doctors are usually seen in this patients. It is also seen that some patients show mixed features which includes episodes of mania, depression, hypomania with

characteristics showing opposite polarity. Resulting in rapid cycling which are about three to four episodes every year. It is an obvious thing that these symptoms should be serious enough or should be hospitalized to ensure safety of the patient and prevention of self-harm and also other people in surrounding. It is also seen that in many cases initially depression is considered as unipolar MDD and later it is usually diagnosed with patient suffering from bipolar disorder. This is also seen because of factors like unipolar disorder is more common than bipolar disorder and also because bipolar disorder lacks pathognomonic features and therefore usually bipolar disorder is diagnosed wrongly as unipolar disorder.

TREATMENT

The first step to treat bipolar disorder is confirming it as mania or hypomania as there is difference in treatment of hypomania and mania. Treatment includes pharmacotherapy and psychosocial therapies. American Psychiatric Association successfully elaborated Practice of Patients with Bipolar Disorder [13]. The first step in acute management is to ensure patient and people nearby safety. To treat bipolar disorder there are some classes of drugs like atypical antipsychotics and conventional anti-depressants, mood stabilizers [14]. But also due to lack of effective treatment there is huge chances of drug combinations many other treatments that are not tested for their efficiency and safety. A main pharmacological agent for bipolar disorder treatment is mood stabilizers mainly to maintain mania. The agent used in the bipolar disorder treatment is lithium. Though lithium has less therapeutic window, less efficacy and it takes a lot of time to set action in treatment of mania it has important role today also in treatment [15]. Anticonvulsants like carbamazepine and valporic acid also have mood stabilizing effects and can be used in some acute manic cases. Antipsychotic drugs come a little use to treat suicidal behaviour. Olanzapine, quetiapine, ziprasidone, risperidone are known as atypical antipsychotic drugs that are used in combination with mood stabilizer. Mood stabilizer and atypical antipsychotic drugs used as combination therapy has shown good result compared to single agent treatment [16]. However only quetiapine has efficacy to be used as monotherapy for acute bipolar I acute depressive episodes or bipolar disorder II [17]. In long term management to prevent deterioration of episodes is the main motive. Bipolar disorder is usually long term disease and is challenging to be treated and also needs a different kind of approach to treat it. It is seen that neurosteroids like brexanolone interacting with receptors of GABA are used for postpartum depression. Also knowing the fact that health care systems are going to get more costly in future herbal plants have the potential to cure many diseases may be used in future for bipolar disorder. Though lithium is used in first line treatment and is a fundamental treatment for bipolar disorder for around many decades but it is still a doubt to use it for acute bipolar depression. Medication and therapy taken usually for a period of 0 to 8 weeks are called acute treatment. If this treatment continues till 6 months and follow up is continued it is called as following a period of sustained remission. This is usually done to avoid more episodes. It is also said that antidepressants that are used in treatment of bipolar disorder should be used very safely, cautiously and also only with short-acting agents which are given in moderate amount then slowly increasing the dosage giving co-treatment like mood stabilizers with moderating the chances and eruption of hypomania. Another alternative health practice can be aromatherapy in which essential oils that are highly concentrated are extracted from plants and these can be used to treat anxiety and also in other healing processes. Like Cimicifuga racemosa also commonly called as Black cohosh is used as nervous system depressant and also as sedative in people with problems of autoimmune and their anti-inflammatory effects [18]. Another phytochemical being Ginkgo biloba which is an extract of a tree called Ginkgo tree and is known to improve memory. It is also an antioxidant and is also used for treatment of dementia [19,20].

RISK FACTORS

Family history in a bipolar disorder patient is one of a most significant and important risk factor. It is seen that children with having history of early onset bipolar disorder has a high risk of suffering from any type of bipolar disorder [21]. Suicidal risk are one of the most concerning risk factors of bipolar disorder. Patient with mood disorder suffering from depressive-dysphoric phases are likely to be associated with suicide and other illness states it is most likely to be seen in patients with hypomanic or mixed features with having several suicidal acts earlier. There is late diagnosis and recognition of bipolar disorder in some cases delay of about more than 10 years also but it is observed that half of the long term risk of patient committing suicide occurs in first two to three years if illness. It is also being studied that neurodevelopment can also be a factor for potential early marker for some mental problems. Denver Development Screening Test which is used to measure language, gross motor skills, personal and social development can be used to predict later mania [22-25]. It is also seen that children getting who are good in academics have more chances of suffering from this problem compared to children who are weak in academics have less chances of suffering from bipolar depression. Another risk for a bipolar disorder patient is medical comorbidities. It is obvious that mood stabilizers, antipsychotics, anticonvulsants are going to have adverse effect on patient. So to control this risk factor monitoring weight, blood pressure, liver functions, blood concentrations of valproate and lithium, gycemia, renal functions, thyroid functioning, dyslipidemia are essential and to be kept in mind while treating the patient. Environmental risk factors also considered as important while diagnosing bipolar disorder person [26-29]. It is also seen that events that occur in life is also a trigger for occurrence of

bipolar disorder in future [30-32]. Medications used for depression in depressed youth known as antidepressants also induces hypomanic symptoms and is risk factor for bipolar disorder [33-35].

CONCLUSION

One of the major health problems is bipolar disorder and is related to high death risk and morbidity. To diagnose bipolar disorder symptoms are depression, hypomania, mania and dysthymia, recklessness, impulsivity, truancy and also other antisocial behaviour. The risk of suffering from bipolar disorder is when person has family history of bipolar disorder especially parents having early onset bipolar disorder. In this condition patient must be observed closely and symptoms should not be neglected and later they can get serious. To evaluate the correct diagnosis of bipolar disorder it requires psychiatric help with complete information and support f patient and their relative and friends. If a patient is already evaluated with bipolar disorder and has already started with his medications and therapies like with mood stabilizers then patients therapeutic levels are in titrate medication order. Healthy and lively atmosphere around a person is the perfect way to avoid bipolar disorder. To treat bipolar disorder there are several ways like to reduce the risk of suicide lithium is used. Suicide cannot be treated on contrast it can just be prevented Mood stabilizers and several anticonvulsants are used in the treatment. But treatment that are recommended or that are used for patients suffering from bipolar disorder need long term psychopharmacological treatment combined with psychosocial interventions. But it should also be seen that the choice of mood stabilizers and other treatments for mania are greatly influenced by person responding to treatment and history of that person. It is a complex disorder because it consists of many episodes and comorbid disorders and also reluctant nature of patient towards treatment. Also it is important that the patient should have the will to get recovered from this disorder and also the good surrounding and environment help the patient to recover fast. This is also reality that due to absence of good and effective treatment there is a high chance of treatment including combination of drugs and this type of treatment not being tested for its efficiency and safety.

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