Hereditary Features of Bipolar Disorder

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Bipolar disorder (BD) is a chronic episodic mood disorder with a multifactorial etiology. Family history plays an important role, with apparent polygenic interactions.[1,2]

We report a case of a patient with BD and a significant family history of BD and other related disorders to highlight the main features associated with heredity in the disorder and to reinforce the importance of early monitoring of these patients' family members as a preventive strategy.

Case Report

The patient was a 51-year-old woman with a diagnosis of BD II (*DSM-5* criteria) and a family history of BD, suicide, and substance abuse (a family genogram is provided in Figure 1). At the age of 20, she had a depressive episode followed by a hypomanic episode. Since then, she has had 3 hypomanic episodes, periods of dipsomania, and multiple depressive episodes. In February 2018, she was admitted to our inpatient psychiatric unit due to a depressive episode with depressive mood, suicidal thoughts, anhedonia, terminal insomnia, and psychomotor retardation. Mood-stabilizing and antidepressive therapies were prescribed, and after 21 days she was stabilized and discharged.

Discussion

This case highlights some of the proposed features of the heredity of BD: the aggregation within families with other affective disorders, the strong family history of suicide and suicide attempts, and the genetic link to alcohol and substance abuse.

A remarkable prevalence of BD was observed on the patient's maternal side, present in 13 relatives (including 1 heterozygote twin and 5 siblings). Although a family background of affective disorder is verified in patients diagnosed with BD, such a high prevalence rate is not commonly observed. We also observed 1 suicide attempt, 4 suicides, 3 substance abuse/dependence cases, and 6 psychiatric follow-ups with no definitive diagnosis.

In line with current evidence,[3] suggesting that first-degree relatives of BD I patients may have a similar risk of developing either BD I or II, the patient's heterozygotic twin's BD I diagnosis may reflect this genetic heterogeneity. Additionally, her mother's major depressive disorder (MDD) diagnosis may also support the hypothesis of shared common genetic risk factors between mood disorders. It is estimated that first-degree relatives of BD patients have a 3-fold[4] and 20-fold[5] increased risk of developing BD and MDD, respectively.

Regarding transgenerational heredity, the early onset of BD in the patient's nephew (adolescence) may be understood as a consequence of the family burden of BD. Across multiple generations, BD seems to carry a stronger genetic load,[6,7] and early age at onset also appears to be associated with a positive family history for unipolar depression and drug abuse.[8]

Suicide rates are 20 times higher in patients with BD than in the general population.[9] Regarding the high number of suicides in the family, evidence suggests that family history of suicide is more common in patients with BD than in those with other affective disorders.[10]

There is no clear consensus about the relation between the pronounced incidence of substance abuse or dependence and BD, as observed in this clinical report. Some studies propose a common genetic background,[11,12] while others advocate that early exposure to substances could be an environmental risk factor for BD.[13]

Family studies suggest that BD II is somewhat genetically distinct from BD I: risks of BD II are higher in relatives of BD II patients than in relatives of patients with BD I or unipolar depression.[14]

Since BD diagnosis has an average 5- to 10-year delay after the first symptoms,[15,16] family history should be considered in the presence of nonspecific manifestations or apparent unipolar depression. Several authors[17,18] have listed risk factors for the probability of BD diagnoses, including family history.

With early identification, psychotherapeutic[19] and pharmacologic[20] preventive interventions may take place, including implementation of substance abuse and suicidal behavior prevention strategies.

In conclusion, in patients with nonspecific manifestations or apparent unipolar depression, family history must be particularly considered. Accordingly, relatives of patients with BD should be monitored for nonspecific or attenuated forms of the disorder. Their identification can lead to preventive strategies or more thoughtful therapeutic approaches. Further investigation is necessary to clarify definitively the genetic network mediating BD heredity.

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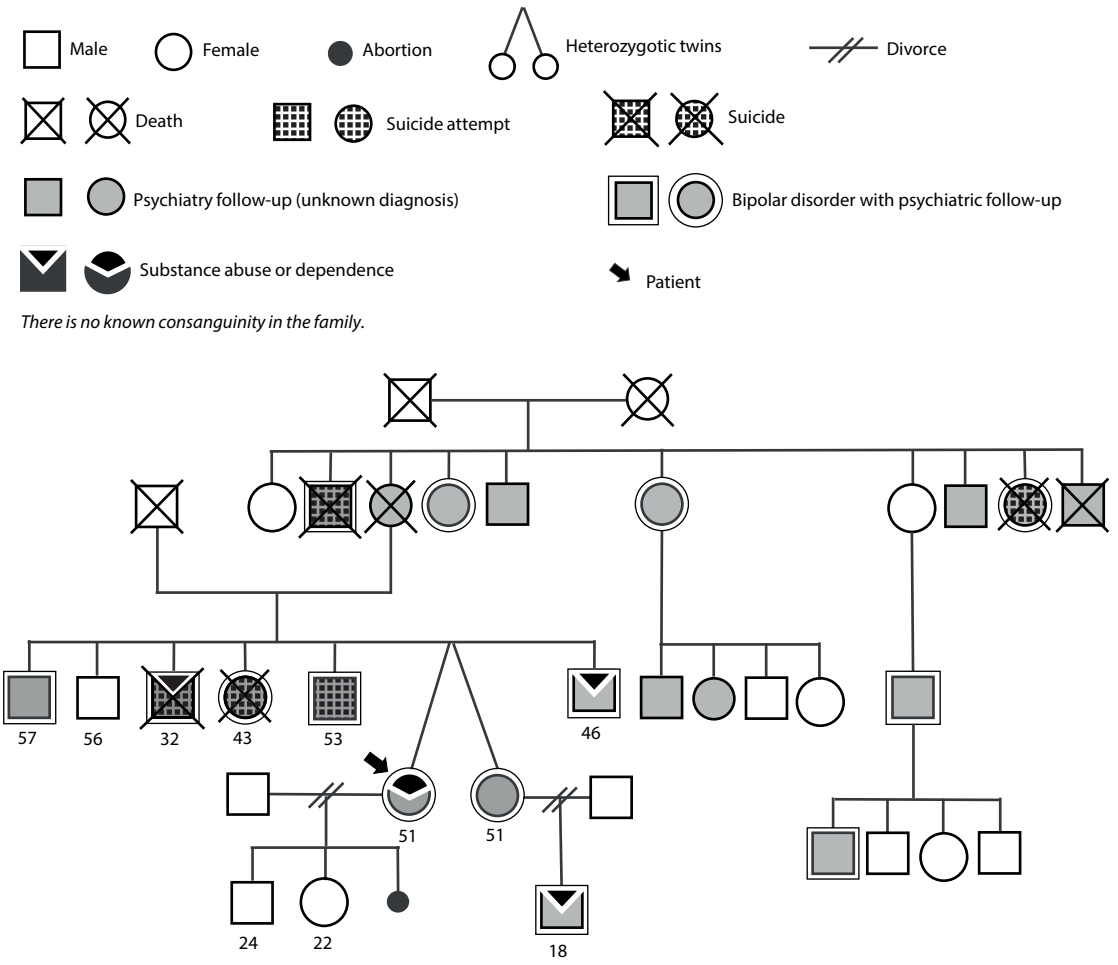
Figure 1. The Patient's Family Genogram[a]



[a]The numbers in the figure correspond to the age of the individuals at the time of the patient's presentation.

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