







**Other biomarkers:** Structural and functional neuroimaging studies have identified abnormalities in brain regions involved in emotion regulation, such as the prefrontal cortex, amygdala and hippocampus [10]. Alterations in inflammatory markers, neurotrophic factors and oxidative stress markers have been observed in individuals with BD [11].

### Treatment options

The primary goals of BD treatment are to manage acute episodes, prevent relapse and improve long-term functioning. Treatment options include pharmacotherapy, psychotherapy and neuromodulation techniques.

**Pharmacotherapy:** Among mood stabilizers, lithium is a first-line treatment for acute mania and the prevention of recurrent episodes. Anticonvulsants, such as valproate and carbamazepine, are also used as mood stabilizers [12]. Atypical antipsychotics, such as quetiapine, olanzapine and aripiprazole, are effective in treating acute mania and maintaining remission [12]. Antidepressants are used to treat depressive episodes in BD, although their use is controversial due to the risk of inducing mania or rapid cycling [27].

**Psychotherapy:** Psychotherapeutic interventions, such as CBT, IPSRT and FFT, have been shown to improve outcomes in BD when used in conjunction with pharmacotherapy [13].

**Neuromodulation techniques:** ECT is an effective treatment for severe, treatment-resistant episodes of mania or depression in BD [14].

TMS or Repetitive TMS (rTMS) has shown potential in treating depressive episodes in BD, although more research is needed to establish its efficacy [15].

### CONCLUSION

BD is a complex, multifactorial mental health condition with a strong genetic component. Several causal hypotheses have been proposed, implicating monoamine dysregulation, kindling, circadian rhythm disruptions and neuroinflammation in its pathophysiology. The clinical course of BD is characterized by recurrent episodes of mania/hypomania and depression, with significant heterogeneity among individuals. EEG and other biomarkers hold potential for improving diagnosis, predicting treatment response and elucidating the neurobiological underpinnings of BD. Current treatment options include pharmacotherapy, psychotherapy and neuromodulation techniques, which can be customized to individual needs based on clinical presentation and response to treatment. Future research should focus on identifying more specific biomarkers, developing novel treatments and optimizing existing therapies to improve outcomes for individuals with BD.

### CONFLICTS OF INTEREST

The Author claims no conflicts of interest.

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