

## Three Categories of Mood Stabilizers which are used in Clinical Practice

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### Mini Review

In the patients with bipolar disorder, mood stabilizers would be used to diminish swings of the mood. Antipsychotics, lithium and anticonvulsants are used as mood stabilizers. The exact mechanisms of these drugs in controlling the mood swings are not clear specifically with regard to antipsychotics. These drugs have effects on dopamine receptors in the pathways related to motivation and emotion, in some parts of the brain like nucleus accumbens, amygdala and hippocampus.

The mechanism of action of lithium is different from antipsychotics. Lithium protects neurons from insults and inhibits cellular apoptosis process by glycogen synthase kinase-3 $\beta$  inhibition or increasing anti-apoptotic protein BCL-2 production. Inhibiting the inositol-1-phosphatase by lithium, cause it to have effects on inositol phosphate second messengers production. Dentate gyrus new neurons growth, will be promoted by lithium either. Lithium also decreases the suicide risk in the patients.

Valproate is a mood stabilizer and anticonvulsant which some of its neuroprotection effects are similar to the effects of lithium. Carbamazepine is also used as a mood stabilizer. Lamotrigine as another mood-altering anticonvulsant, has strong antidepressant effects on the patients with bipolar disorder. These effects

are much more stronger than the effects of the other mood stabilizers.

Understanding the basic neuronal mechanisms of bipolar disorder on one hand and the mechanisms of action of mood stabilizers on the other hand, is of great importance to treat patients with bipolar disorder properly and to be able to differentiate true pathological cases from moody individuals during clinical practice.

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