

Bipolar disorder

Lithium Pharmacodynamics

- No psychotropic effect on non-Bipolars
- Affects nerve membranes, multiple receptor systems and intracellular 2nd messenger impulse transduction systems.
- Interacts with serotonin
- Potential to regulate CNS gene expression, stabilizing neurons w/ associated multiple gene expression change.

Lithium Side Effects and Toxicity

- **Relate to plasma concentration levels, so constant monitoring is key**
- **Higher concentrations (1.0 mEq/L and up produce bothersome effects, higher than 2 mEq/L can be serious or fatal**
- **Symptoms can be neurological, gastrointestinal, enlarged thyroid, rash, weight gain, memory difficulty, kidney disfunction, cardiovascular**
- **Not advised to take during pregnancy, affects fetal heart development**

If Lithium Doesn't Work

- 40% of Bipolars are resistant to lithium or side effects hinder its effectiveness
- Therefore, we must consider alternative agents for treatment

Valproic Acid (Depakote)

- An anti-epileptic, it is the most widely used anti-manic drug
- Augments the post-synaptic action of GABA at its receptors (increasing synthesis and release)
- Best for rapid-cycling and acute-mania
- Therapeutic blood levels: 50-100 Mg/L
- Side effects include GI upset, sedation, lethargy, tremor, metabolic liver changes and possible loss of hair
- Can also be used for anxiety, mood, and personality disorders

Carbamazepine (Tegretol)

- Superior to lithium for rapid-cycling, regarded as a second-line treatment for mania
- Correlation between therapeutic and plasma levels (estimated between 5-10 Mg/L)
- Side effects may include GI upset, sedation, ataxia and cognitive effects

Lamotrigine

- Reported effective with Bipolar, Borderline Personality, Schizoaffective, Post-Traumatic Stress Disorders
- Inhibits neuronal excitability and modifies synaptic plasticity
- Side Effects may include dizziness, tremor, headache, nausea, and rash

Atypical Anti-psychotics

- Clozapine, Risperidone, and Olanzapine, Aripiprazole
- Risperidone seems more anti-depressant than anti-psychotic
- Clozapine is effective, yet not readily used due to potential serious side effects
- Olanzapine is approved for short-term use in acute mania
- Aripiprazole is effective for the treatment of acute manic episodes of bipolar disorder in adults