
Medicinal Properties of Lithium (Concise) - Informative article

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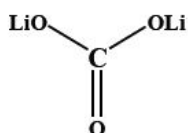
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Abstract: Lithium, alkali metal with atomic number 3 and monovalent cation possess numerous activities in medicinal prospective but mainly used as an antimanic drug as well as possess mood stabilizing activity taken by oral route of administration. Marketed product licab / lithosun prescribed for the treatment of acute mania and bipolar disorders as a salt of lithium carbonate that slowly penetrates into the CNS and carries out reaction.

Introduction

Lithium, a tidly or bijou monovalent cation. In periodic table, Lithium, of atomic number 3 and present in alkali metals carries a number of activities within the body. In 1949, in animals as sedative and acts as boon for manic patients with some beneficiary effects. Later on, in 1960 & 1970s a narrow spectrum of the lithium serum was realized and efficacy with its unequivocal evidence was obtained. As a drug, lithium suppresses mania and having a prophylactic effect in manic depressive illness (MDI) with no CNS effects adversely at different concentrations. Lithium is the mood stabilizing drug that established a standard in terms of antimanic drug.

In terms of pharmacology, pharmacokinetics profile of Lithium is slowly absorbed orally and not metabolized. It carries an apparent volume of distribution at steady state averaged to 0.8L /Kg by distributing firstly into extracellular water which gradually enters cells and penetrates slowly into the CNS which finally uniformly distributed into the body. Instead of Lithium alone, lithium carbonate salt having less hygroscopic & less irritant property used as an antimanic drug. Lithium carbonate, it is converted into chloride in the stomach. Lithium having a half-life of 14-30 h that is not metabolized and lithium carbonate as salt is used.



Li₂CO₃ (lithium carbonate)

In today's world, lithium carbonate marketed as licab/ Lithosun as tablet for acute mania & in bipolar disorder. Lithium partly replaces Na⁺ in body and distributes equally intracellularly and extracellularly; which affects the ionic fluxes over brain cells by modification of the

cellular membrane property. It inhibits the release of Nor adrenaline & Dopamine in brain of animals with no change in 5-Hydroxytryptamine(5-HT) release, ultimately maintaining the monoamine regulation in the brain.

References

1. Rang & Dale, Pharmacology