

Discoveries & Their Trajectory Psychopharmacological Specificity of the Lithium Ion

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(1828 – 1900)
William Hammond



(1834 – 1900)
Carl Lange, M.D.



(1842 – 1907)
Frederick (Fritz) Lange , M.D.

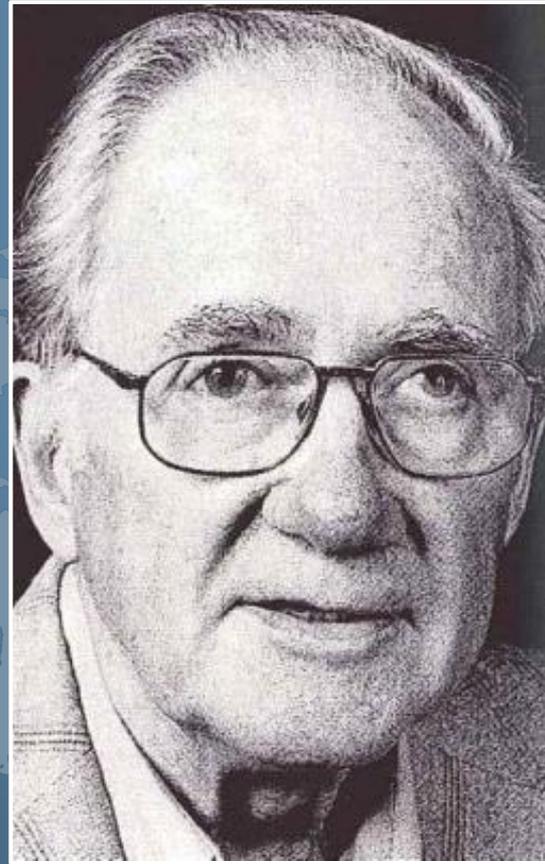


(1912 – 1980)
John Cade, M.D.

UNIVERSITY of MELBOURNE

- To address this issue, my colleagues at the University of Melbourne led by Dr. E.M. Trautner with Drs. D. Coats, R. Wynn, and Charles Noack carried out a number of studies to understand the problems presented and develop treatments and safeguards. These studies made it possible to resuscitate lithium studies and offer a safe way of monitoring long-term maintenance therapy.

- Dr. E.M. Trautner 1951
- Department of Physiology at the University of Melbourne
- Chair, Professor R.D. Wright



(1918 – 2005)
Mogens Schou, M.D.

CONCLUSIONS

1. Efficacy of lithium in acute episodes of mania.
2. It is the benchmark treatment for mania and the gold standard comparator.
3. Unique in exerting anti-psychotic activity without drowsiness, sedation or hypotension.
4. Efficacy in acute bipolar depression also in unipolar with family history of bipolar disorder > placebo = tricyclics.

CONCLUSIONS

5. Prophylaxis in bipolar disorder. Lithium is the unanimous first-line choice for the maintenance treatment of bipolar disorder. Effective in both manic and depressive phases. Maintenance therapy is the most important aspect of managing bipolar disorder.
6. Augmentation of lithium in major depression for SSRI, MAO, and tricyclics.

CONCLUSIONS

7. Lithium effective for classic bipolar disorder lacks efficacy in atypical forms of schizophrenia and schizo-affective disorder: Cade, Gershon et al., claimed no major therapeutic effect. Cochrane review failed to support value of lithium – NYU study.
8. Identify the subgroup of specific lithium responders – classical bipolar patients – positive family histories.

SUICIDE – ANTISUICIDAL

- Prevention of relapse of bipolar episodes
- Mortality of bipolar disorder untreated is 2–3 times the general population
- Untreated, 20% of bipolars commit suicide
- Lithium is unique, in that long-term use reduces the risk of suicide and suicidal behavior in BP up to 80%
- Effect not seen with other mood stabilizers

SUICIDE – ANTISUICIDAL

- May have antisuicidal effect in other psychiatric disorders, e.g., schizophrenia
- Effective in reducing attempted and completed episodes
- Composite measure of suicide plus deliberate self-harm was also lower
- Questions also whether lithium is as effective in aggressive and conflictual behavior (Sheard)
- Euthymia; compare with other drugs

NEUROPROTECTION

- Bipolar disorder entails mood episodes as well as considerable structural impairment over time potentially secondary to changes in cellular plasticity and resilience. Recent analysis of structural studies in bipolar disorder showed a robust change in brain structure as well as evidence that lithium increases grey matter volume.

NEUROPROTECTION

- Neuroprotection is the most consistent biological outcome associated with lithium treatment in both preclinical and clinical models. In this regard, neuroprotective properties of lithium are thought to relate to its mechanism of action and may be responsible for its mood-stabilizing effects.