Lítio Normaliza a concentração intracelular do sódio

Este efeito pode ser o responsável pela melhoria da mania ou da depressão na doença bipolar. Clarence Cone nos revela que o sódio intracelular alto promove a proliferação celular mitótica por diminuir o potencial de membrana (Em). Este é um dos motivos do sódio inibir ou diminuir a proliferação celular em vários tipos de neoplasias malignas ao lado de inibir a enzima GSK-3beta (glicogênio sintase kinase 3 beta) e as beta cateninas.

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Lithium normalizes elevated intracellular sodium.

Huang X, Lei Z, El-Mallakh RS. Bipolar Disord. 2007 May;9(3):298-300.
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Abstract

BACKGROUND: Both mania and bipolar depression are characterized by elevations of intracellular sodium concentrations. This observation has been purported to be central to the pathophysiology of abnormal moods in bipolar illness. Reduction of sodium influx is a proposed shared mechanism of action of effective mood stabilizers, but direct documentation of this effect for lithium has never been demonstrated. METHODS: Flame spectroscopic determinations of intracellular sodium concentration were performed in the human glioma cell line, LN292, after treatment with the sodium pump inhibitor, ouabain, and co-treatment with ouabain and lithium. RESULTS: Ouabain 0.1 microM doubles the intracellular sodium concentration after 3 days. Pretreatment with lithium 1 mM for 1 week normalizes intracellular sodium. CONCLUSION: This is the first demonstration that lithium can normalize abnormally elevated intracellular sodium levels. This may be an important mechanism of lithium action.

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