

## Week's Best Articles: Mood Disorders

May 9, 2012 - May 16, 2012

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### [Differential diagnosis of bipolar affective disorder type II and borderline personality disorder: analysis of the affective dimension](#)

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### [Is bipolar disorder specifically associated with aggression](#)

Bipolar Disorders 05/08/2012

### [Hippocampal volumes in bipolar disorders: opposing effects of illness burden and lithium treatment](#)

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#### BIPOLAR DISORDERS

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BIPOLAR DISORDERS

#### Original Article

## Hippocampal volumes in bipolar disorders: opposing effects of illness burden and lithium treatment

Hajek T, Cullis J, Novak T, Kopecek M, Höschl C, Blagdon R, O'Donovan C, Bauer M, Young L T, MacQueen G, Alda M.  
Hippocampal volumes in bipolar disorders: opposing effects of illness burden and lithium treatment.  
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**Objective:** Hippocampal volume decrease associated with illness burden is among the most replicated findings in unipolar depression. The absence of hippocampal volume changes in most studies of individuals with bipolar disorder (BD) may reflect neuroprotective effects of lithium (Li).

**Methods:** We recruited 17 BD patients from specialized Li clinics, with at least two years of regularly monitored Li treatment (Li group), and compared them to 12 BD participants with < 3 months of lifetime Li exposure and no Li treatment within two years prior to the scanning (non-Li group) and 11 healthy controls. All BD patients had at least 10 years of illness and five episodes. We also recruited 13 Li-naïve, young BD participants (15-30 years of age) and 18 sex- and age-matched healthy controls. We compared hippocampal volumes obtained from 1.5-T magnetic resonance imaging (MRI) scans using optimized voxel-based morphometry with small volume correction.

**Results:** The non-Li group had smaller left hippocampal volumes than controls (corrected  $p < 0.05$ ), with a trend for lower volumes than the Li group (corrected  $p < 0.1$ ), which did not differ from controls. Young, Li-naïve BD patients close to the typical age of onset had comparable hippocampal volumes to controls.

**Conclusions:** Whereas patients with limited lifetime Li exposure had significantly lower hippocampal volumes than controls, patients with comparable illness burden, but with over two years of Li treatment, or young Li-naïve BD patients, showed hippocampal volumes comparable to controls. These results provide indirect support for neuroprotective effects of Li and negative effects of illness burden on hippocampal volumes in bipolar disorders.

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