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CORPUS CALLOSUM SIZE AND SHAPE IN INDIVIDUALS WITH BIPOLAR DISORDER AND THEIR RELATIVES

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Objective: To examine genetic influences the anatomy of the Corpus Callosum (CC) in Bipolar Disorder (BD) by examining first-degree relatives in addition to BD patients.

Methods: We compared CCI size and shape in 180 individuals: 70 with BD, 45 of their unaffected first-degree relatives, and 75 healthy controls. The CC was extracted from a mid-sagittal slice from T1-weighted magnetic resonance images; its total area, length and curvature were compared across groups. A non-parametric permutation method was used to examine for alterations in width of the callosum along 39 points.

Results: Validating our previous findings, a significant global reduction in CC thickness was seen in BD patients, with a disproportionate thinning in the anterior body. First-degree relatives did not differ in CC size or shape from controls. Duration of illness was associated with thinning in the anterior body, whereas Lithium treatment associated with thicker anterior CC midbody.

Conclusions: Global and regional CC thinning is a disease related feature of BD and may not represent a marker of familial disposition.