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ELECTROCONVULSIVE THERAPY: THE ROLE OF HIPPOCAMPAL NEUROGENESIS

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During recent years magnetic (MRI) studies have pointed to a reduction in hippocampal volume in patients with severe depression. Volumetric changes reflect the actual number of days that individuals have been depressed (1). These findings have heightened interest in studying hippocampal structure and function in experimental animals, especially during and after electroconvulsive seizures -the most powerful of antidepressant therapies (2). Both before and after 2000, with the earliest report on hippocampal neurogenesis following seizures, findings of gliogenesis and synaptogenesis have been reported (3). During the last decade further studies of neurotropic factors have supported ideas of the role of neuroplasticity related to ECT in humans (4). All antidepressant medications, but not antipsychotics, have a similar, but weaker effect on hippocampal neurogenesis. We hypothesize that an induction of neurotropic factors leading to hippocampal neurogenesis may play a major role for the action of ECT (5).

References:

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