

# Promising results in deep brain stimulation for patients with treatment-resistant depression

July 21 2008

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New data from a study of patients with treatment-resistant depression who underwent deep brain stimulation (DBS) in the subcallosal cingulate region (SCG or Cg25) of the brain shows that this intervention is generally safe and provides significant improvement in patients as early as one month after treatment. The patients also experienced continued and sustained improvement over time.

The data are reported in the online issue of *Biological Psychiatry* by scientists from the University of Toronto and Emory University School of Medicine.

The study began at the University of Toronto in 2002, led by Helen S. Mayberg, MD, and collaborators Andres Lozano, MD, PhD, neurosurgeon, and psychiatrist Sidney Kennedy, MD.

Mayberg is now a professor in the Department of Psychiatry and Behavioral Sciences and the Department of Neurology at Emory University School of Medicine. This clinical trial is the culmination of Mayberg's 20 years of research using brain imaging technology that has worked to characterize functional brain abnormalities in major depression and to identify the mechanisms of various antidepressant treatments.

A report on the first six patients in the study was published in the Journal

*Neuron* in 2005. The new paper reports on an expanded sample of patients and an extended period of clinical follow-up.

DBS uses high-frequency electrical stimulation targeted to the specific areas of the brain involved in neuropsychiatric disease. Twenty patients received SCG DBS for 12 months. Twelve of 20 patients experienced a significant decrease in depressive symptoms (defined by a 50 percent decrease in the Hamilton Depression rating scale) by six months, with seven patients essentially well with few remaining symptoms (remission, defined as a Hamilton Depression Rating Scale score

Citation: Promising results in deep brain stimulation for patients with treatment-resistant depression (2008, July 21) retrieved 23 July 2023 from

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