

FC01-03 - DEEP BRAIN STIMULATION OF SUBCALLOSAL CINGULATE GYRUS FOR TREATMENT RESISTANT DEPRESSION

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Background: Deep brain stimulation (DBS) of the subcallosal cingulate gyrus (SCG) has been suggested to improve depressive symptoms in treatment-resistant depression (TRD). We now report preliminary results of DBS and one-year follow up in six patients.

Methods: Six patients with severe TRD (Thase Resistance Index>4) underwent DBS surgery and subsequent monthly assessments. DBS response was defined as ≥50% reduction in the 17-item Hamilton Depression Rating Scale (HDRS) or HDRS< 8 (remission). Electrodes location was assessed in each patient by means of pre/post-DBS MRIs co-registration.

Results: DBS led to early and late reductions of average HDRS (from 22.5 to 9.8 and 6.25 respectively, see Figure 1 for evolution of HDRS mean scores). One month after surgery 16.7% of patients met criteria for response and for remission. Three months after response rates increased to 66.7% while remission rates were maintained. At six months, 66.7% of patients were responders. After 9 months, response rates arose up to 83.4% and these rates were largely maintained at 12 months. Remission rates showed similar growth over follow-up. No substantial differences were observed in electrodes location, and they were not found to be related to response or remission rates. The number of serious adverse effects was small with no patient experiencing permanent deficits.

Conclusions: This study suggests that DBS is relatively safe and provides significant improvement in patients with TRD. Improvement on average seems to be linearly progressive and, once melioration is achieved, it is maintained for at least one year. The procedure is well tolerated.