

Motore cortex stimulation for advanced Parkinson
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In 2000, Canavero et Paolotti reported an improvement of symptoms in a case of advanced Parkinson disease, following chronic motor cortex stimulation (MCS). In 2002, the same group reported in J of Neurosurg. the results obtained in 2 patients with Parkinson disease. Unilateral MCS proved to be beneficial bilaterally. They concluded that MCS may represent a cost-effective alternative to DBS. In 2003 we started a prospective study to evaluate the efficacy of motor cortex stimulation (MCS) in parkinsonian patients. The inclusion criteria were: - idiopathic Parkinson disease (PDSBB criteria); - at least 5 years disease's length; - disease in the advanced state (UPDRS in off \geq 40/180; Hoehn and Yahr \geq 3; motor complications: fluctuations and disabling dyskinesias); - positive response to L-Dopa; - DBS not accepted by the patient or contraindicated; - patient ability to give informed consent to the study. The exclusion criteria were: - history of epilepsy or EEG epileptic activity; - alcohol or drug abuse; - mental deterioration; - psychiatric symptoms; - previous basal ganglia surgery; - other major illness. 7 patients met the above mentioned criteria, and were submitted to the implant of an epidural plate electrode (Resume, Medtronic) over the motor cortex contralateral to the worse clinical side. Therapeutic stimulation parameters were: 120us, 80Hz, 3-4V, delivered continuously through contacts 0 and 3. The clinical assessment before implant and at 1, 3 and 6 months included: - UPDRS; - finger tapping; - walking time; - PDQL (Parkinson Disease Quality of Life scale); - MMSE (Mini Mental State Evaluation); - EEG; - current oral medications and adverse events. The clinical evaluation was performed both in the off and in the on medication state and was videotaped.

All the patients showed a clinical improvement, particularly evident in the off medication state: mean UPDRS-III decrease was 33.8% at 6 months. Quality of life also improved. LEDD intake was decreased of 18.4%. No adverse event was noticed.

These preliminary data confirm a beneficial effect of motor cortex stimulation on parkinsonian symptoms.