

DEBATE: DEEP BRAIN STIMULATION MANAGEMENT IS AN EFFECTIVE TREATMENT FOR ADVANCED PD, BUT AT WHICH STAGE? LATE

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Deep brain stimulation (DBS) of subthalamic nucleus (STN) is an accepted therapy in advanced Parkinson's disease (PD). The indications, contraindications, complications and limitations are all well known and are still being investigated in larger series and in longer time periods, also in comparison for alternative DBS targets (such as globus pallidus internus) or medical measures (such as intra-duodenal levodopa or subcutaneous apomorphine infusions). Since PD presents and progresses heterogeneously, selection of proper patients at proper time point during the disease course for DBS is still a challenge to achieve the best results, but overall 10% of PD patients are accepted to be good candidates for STN-DBS after 10-15 years of disease progression. The question of whether the stimulation of STN might also be a treatment option at earlier stages of PD has first been raised after findings of possible neuroprotective potential in rodent and primate models. Since this possibility has not been supported by wide clinical experience and some retrospective data, early STN-DBS has then been suggested as a beneficial early treatment option when the motor complications are relatively mild in order to improve quality of life. Although the short-term results of pilot and ongoing controlled studies are rather encouraging, the safety and efficacy issues in long term are needed to be meticulously explored. It should be kept in mind that DBS surgery is accepted to be safe and cost-effective in advanced cases when applied as a last resort. The considerable number of morbidity, including surgery-induced cognitive dysfunctions and speech problems are the main argument against more liberal use of this method even in late stages. Therefore without convincing data from larger series of patients compared to best possible medical treatment in controlled studies, application of this effective surgical method should be delayed till the stage where all conventional medical measures fail, as still suggested by the available guidelines.