Micro lesion effect

To determine whether the immediate response to electrode implantation (micro lesion effect, MLE) in the internal segment of the globus pallidus (GPi) predicts symptom improvement with deep brain stimulation (DBS) at 6 months in patients with Parkinson's disease (PD) or generalized dystonia. Electrode implantation in the subthalamic nucleus (STN) prior to Electrostimulation has been reported to predict a beneficial effect of DBS in patients with PD, but whether this is also the case for the GPi in either PD or dystonia patients has not been established. We studied 20 patients (11 with PD and 9 with dystonia) who underwent electrode implantation in the GPi. Effects were assessed using standardized scales after 24 hours, weekly for 3 weeks prior to starting DBS, and after 6 months of DBS. 10 of 11 PD and 8 of 9 dystonia cases who benefited from electrode implantation also showed improvement in all motor and disability scores after 6 months of DBS of the GPi. One dystonia patient who did not show MLE benefited from DBS. The presence of MLE after electrode implantation in the GPi may help predict motor benefit from DBS in PD and generalized dystonia patients [1)].

1)
Cersosimo MG, Raina GB, Benarroch EE, Piedimonte F, Alemán GG, Micheli FE. Micro lesion effect of the globus pallidus internus and outcome with deep brain stimulation in patients with Parkinson disease and dystonia. Mov Disord. 2009 Jul 30;24(10):1488-93. doi: 10.1002/mds.22641. PubMed PMID: 19475579.