

THE EFFECT OF DEEP BRAIN STIMULATION ON VOIDING DYSFUNCTION IN PARKINSON'S DISEASE AND ESSENTIAL TREMOR

Hypothesis / aims of study

There is a well described body of literature regarding the high incidence of voiding dysfunction (35-70%), bowel dysfunction (33%) and erectile dysfunction (60%) in patients with Parkinson's disease (PD). Essential tremor (ET), present in 5% of adults, is often confused with PD and is also associated with voiding dysfunction. Deep brain stimulation (DBS) has been used to treat motor manifestations of PD and ET. The aim of this study is to compare and evaluate the efficacy of deep brain stimulation (DBS) of the sub-thalamic, ventricular, and globus nuclei on voiding symptoms in patients with PD and ET.

Study design, materials and methods

45 patients with PD or ET were identified through the department of Neurology. They each participated by completing validated questionnaires documenting symptoms associated with bladder storage and emptying symptoms before the initiation of and after the completion of DBS.

Results

45 patients, 30 with PD and 15 with ET were studied. Of the 30 patients with PD, 19 had urinary incontinence; 21% had improvement of their symptoms, while 79% had no change or had worsening incontinence after DBS. 24 PD patients had urinary urgency; 30% had improvement of their symptoms while 70% had no change or worsening of their symptoms after DBS. 26 PD patients had nocturia; 12% improved and 88% had no change or worsening of their symptoms after DBS. Of the 15 patients with ET, 4 had urinary incontinence and 7 had urinary urgency, none of these patients improved with DBS. 10 ET patients had nocturia with only 20% having improvement in their symptoms after DBS.

Interpretation of results

Although DBS may play an effective role in managing the voiding and storage problems in patients with PD, there seems to be less of a role in patients with ET. Our study differs from two prior studies that have looked at Urodynamic effects of DBS in a limited number of patients with PD but not ET.

Concluding message

DBS as a treatment for voiding dysfunction alone in PD and ET is not supported by our data.

<i>Specify source of funding or grant</i>	None
<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	Wake Forest University IRB
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes