

BACKGROUND

We recently reported that PD STN-DBS patients endorsed a higher level of emotional, but not physical, symptoms of depression 6 months post-STN-DBS.

However, the influence of levodopa and psychotropic medications on these findings has not been evaluated.

The literature shows inconsistent findings regarding the role of levodopa and pharmacological treatments for depression and changes in emotional functioning following STN-DBS.

Table 1: Demographics by Group

	Baseline		p
	PD	DBS	
Gender			
M/F	16/6 (72.7/27.3%)	10/7 (58.8/41.2%)	NS
Age	64.7 (8.1)	63 (8.86)	NS
Duration	5.5 (4.35)	7.76 (3.13)	NS
Education	16.23 (1.3)	14.12 (2.619)	0.002
Meds pre operation	392.22 (304.57)	1004.3 (462.61)	0.001
Meds post 6 months	528.81 (365.42)	833 (343.37)	0.01
MMSE	28.95 (1.04)	28.5 (2.80)	NS

Acknowledgment: This research was supported by NIH/NINDS K 23 Award and the Veteran's Affairs, Office of Research & Development

METHODS

We examined mood differences and changes in levodopa and psychotropic medication in 17 STN-DBS and 22 PD patients who served as matched controls.

Patients completed a comprehensive clinical interview and the Beck Depression Inventory (BDI). Levodopa equivalents were calculated, and categorical changes in psychotropic medication were recorded.

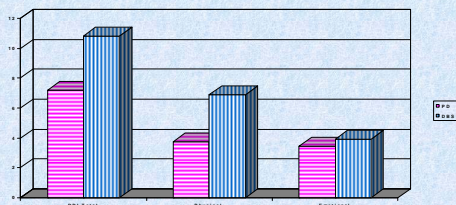
RESULTS

At baseline, DBS patients endorsed a higher level of depression in comparison to the PD group ($p=0.04$).

The groups did not differ on emotional symptoms of depression at baseline ($p=0.67$).

However, the groups differed significantly on physical symptoms of depression at baseline ($p=0.01$) (Figure 1).

Figure 1: Baseline Depression Scores



Levodopa Medications

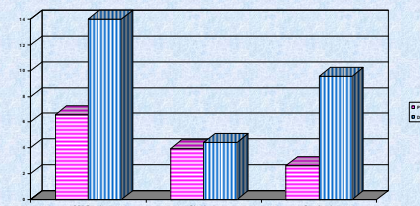
After controlling for the differences in levodopa at baseline, the between group difference on physical symptoms of depression was no longer significant ($p=0.10$).

Change in levodopa over the 6 month period was not significantly related with physical, emotional, or total symptoms of depression (Figure 2).

RESULTS

STN-DBS patients reported more emotional symptoms of depression 6 months post-surgery, which was not related to the reduction in levodopa following surgery.

Figure 2: Depression Scores Over Time



Psychotropic Medications

A higher proportion of DBS patients were taking psychotropic medications at baseline, which remained consistent over the 6 months.

Only 4 patients from each group had psychotropic medication changes over time; small sample size limited further statistical analyses.

CONCLUSION

Results reveal an association between levodopa dosage and physical, but not emotional, symptoms of depression at baseline.

There was not an influence of a reduction in levodopa on mood over the 6-month period for the DBS or the PD groups, with the DBS patients reporting more emotional symptoms of depression following surgery.

Psychotropic treatment remained relatively stable for both groups over time.

Future research focusing on changes in psychotropic medication and physical and emotional symptoms of depression is warranted.