Letter to Editor: Neuropsychiatric Consequences of Deep Brain Stimulation in Patients with Chronic Movement Disorders

Nowadays, the main surgical treatment for Parkinson disease (PD) and other chronic movement disorders is deep brain stimulation (DBS), which has been reported to have consequences such as decline in verbal fluency and episodes of depression.

We designed an interventional study in 12 patients (9 men, 3 women) affected by PD, dystonia, and tic who underwent bilateral subthalamic nucleus (STN) DBS operation. We assessed each patient before surgery, 1 month, and then 1 year after the operation.

The results of our study showed a significant improvement with respect to the scores of the Short Form Health Survey (SF36). The Hamilton anxiety scale also showed an overall but insignificant improvement. The mean scores of the Beck depression inventory had a great drop 1 month after operation but a rise 12 months later, through an overall insignificant pattern.

Pearson correlation test showed a significant negative correlation between age and the changes of the SF36 scores. The BDI scores were assessed in relation with age. Although there was no actual relation between them before the operation, we detected a positive correlation between them 1 year after the DBS.

The results of our study were generally compatible with the results of Drapier et al. (2006), Heo et al. (2008), York et al. (2009), Paek et al. (2013), and amazingly similar to the meta-analysis published by Couti (2014) reporting an improvement in the mood of patients postoperatively that declines gradually with time. These results resemble the outcomes of the studies of Contarino et al. (2007) and York et al. (2009).

The outcomes showed that the benefits of DBS outweighs the slight risk of developing depression; However, patients especially the elderly must be under regular monitoring for early detection of mood changes. Adverse effect on verbal fluency is another important issue to be considered while evaluating the cost benefits of the operation. Thus ethically patients should be made aware of this potential risk before decision making.

According to negative correlation between the improvement in the quality of life and age, and the significant relationship between age and higher BDI scores, we strongly suggest that age be considered as a determinant factor in case selection.

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References


