

Introduction

Deep Brain Stimulation (DBS) has been an established treatment for parkinson’s disease (PD) over the past 25 years, however, long-term outcomes associated with this procedure are poorly understood. Few studies have reported a series with follow-up of over 9 years, the largest of which examined a cohort of 79 patients (1). Here, we report long term sur-vival data in cohort of 200 patients with PD and at least 10 years followup.

Methods

We conducted a retrospective review using administrative data for our patients who underwent DBS implantation for PD at our institution from January 1999 to June of 2006 with at least 10 years of follow-up (n = 200). We performed survival analyses using Kaplan Meier estimation and multivariate regression using Cox Proportional Hazards modeling.

Results

Demographics for the cohort were as follows (n = 200): mean age of 63 years (median 64 years), 68% male, 26% patients had at least 1 medical co-morbidity (CAD, CHF, DM, atrial fibrillation, or DVT), and 78% had at least 1 revision surgery. At the end of 10 year follow-up, we observed a survival probability of 51% (mean age at death 73 years). Using multi-variate regression, we found that age at implantation (HR = 1.02, p = 0.01) and male gender (HR = 1.42, p = 0.02) were predictive of reduced survival, whereas increased survival was associated with increased number of revisions (HR = 0.36, p < 0.001). Number of medical co-morbidities was not significantly associated with survival, p > 0.5).

Conclusions

We estimate a 10 year survival rate of 51% after initial DBS implantation for treatment of PD, which is similar to previous reports of long-term mortality in patients with non-surgically managed PD (54% survival at 9.6 years of disease (2)).

Learning Objectives

By the conclusion of this session, participants should be able to better understand the long term history of patients being treated with DBS for movement disorders.

References

(1) Bang Henriksen, M., et al. "Surviving 10 years with deep brain stimulation for Parkinson's disease—a follow-up of 79 patients." European journal of neurology 23.1 (2016): 53-61.

(2) Hely, M. A., Morris, J. G., Traficante, R., Reid, W. G., O’Sullivan, D. J., & Williamson, P. M. (1999). The Sydney multicentre study of Parkinson’s disease: progression and mortality at 10 years. Journal of Neurology, Neurosurgery & Psychiatry, 67(3), 300-307.

