

Globus Pallidus internus (GPI) -Deep Brain Stimulation (DBS) in Tourette`s Syndrome: Long-Term “Functional” Outcome

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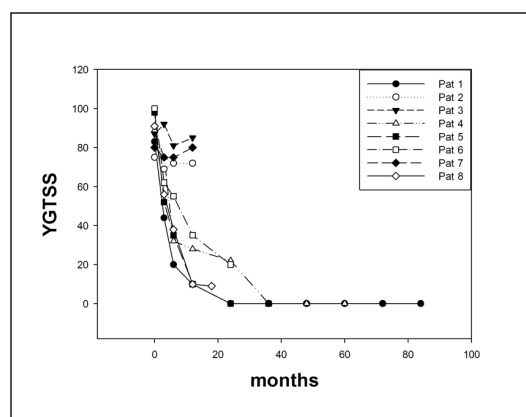


Introduction

DBS in various targets for Tourette`s Syndrome (TS) has been studied for some years with around 100 cases published. However, there is still the need for valid long-term data, especially concerning the functional outcome. Aim of the present study therefore was to analyze the long-term “functional” outcome in 8 TS-patients after GPI-DBS, which to date, the largest series for this target.

Methods

All patients (mean age at surgery 34 years (range 26-44), 5 female/3 male) had undergone GPI-DBS (posteroventrolateral (motor) part). The Yale Global Tic Severity Scale (YGTSS) was used to evaluate symptomatic outcome. Functional outcome was assessed applying the Global Assessment of Functioning Scale (GAF) and the Gilles-de-la-Tourette-Syndrome Quality-of-Life scale (GTS-QOL) with additionally documenting all major psychosocial changes. Mean follow-up was 39.7 months (range 18-89).

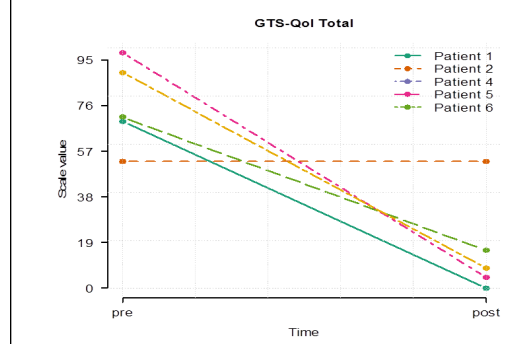


Results

Tic-improvement was significant ($p=0.001$) in 5/8 patients: YGTSS-reduction of 100% (tic-free) in 3 patients (Pat. I (12/89 months), Pat. IV (24/56 months), Pat. V (21/48 months), reduction of 90% in 2 patients (Pat. VI (18/24 months), Pat. VIII (12/18 months).

“Symptomatic” improvement was associated with significant long-term “functional” improvement in all responders: mean increase of GAF from $53.75 (\pm 7.5)$ to $83.75 (\pm 7.5)$ at last observation together with a strong correlation between the GTS-QOL and symptomatic resolution ($R^2= 0.62$). Psychosocial “life-events”: Pat. I: experiencing a severe episode of depression despite being tic-free after loss of secondary benefit. Pat. IV and VIII: being almost tic-free post-DBS, both patients became pregnant and gave birth to healthy baby-boys. Pat. V: struck with self-inflicted blindness, the patient realized this severe deficit with the tics no longer dominating his life post-DBS.

Results: Functional Outcome – GTS-QoL



Conclusions

GPI-DBS – in the posteroventrolateral part - seems to offer a promising therapy with stable longterm-“functional” improvement in selected TS-patients. However, both – patient and clinicians in charge - should be prepared for significant psychosocial changes.

Learning Objectives

“By the conclusion of this session, participants should be able to: 1) Describe the importance of assessing also the “functional” and not only the “symptomatic” (long-term) outcome of therapies applied psychiatric/neurological diseases, 2) Discuss, in small groups, the application of DBS in Tourette`s Syndrome and 3) Identify an effective treatment for selected patients with intractable Tourette`s Syndrome

References

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