A multicentre European survey of advanced therapies (apomorphine and levodopa infusions and subthalamic nucleus deep brain stimulation) in Parkinson's disease


On behalf of EUROPAR and the IPMDS Non-Motor PD Study Group

OBJECTIVE: To address demographic and other variables for Parkinson's disease patients (motor and non motor effects) at baseline for infusion therapies (subcutaneous apomorphine (APO), intrajejunal levodopa (IJLI) and deep brain stimulation of the subthalamic nucleus (DBS-STN)) and follow up real life data across specialist centres in movement disorders in Europe.

METHODS:

- Analysis of data registry collecting real life clinical variables in patients with advanced PD undergoing advanced therapies from EUROPAR, a multicentre European network of the MDS non-motor PD study group.
- As part of clinical practice all had assessments of motor (Unified PD Rating Scale: UPDRS III and IV/ Scales for Outcomes in PD: SCOPA-motor and SCOPA-comp), non-motor symptoms (Non-Motor Symptom Scale: NMSS) and quality of life outcomes, (Quality of Life Questionnaire: PDQ-8) scores as well as demographic variables. Data collected at baseline and at 6 months FU
- Selection of patients for advanced therapies was based on established local pathways and clinician discretion. Adverse events if any were recorded in the registry noting any relation to therapy. 
- Kruskal-Wallis equality-of-populations rank test was used with Benjamini-Hochberg correction for multiple comparisons.

RESULTS:

- There were no significant differences in age of patients selected for advanced therapies between the groups, although patients with DBS were slightly younger (see Table 1).
- Duration of PD before advanced treatment was significantly longer (p<0.0004) in DBS (10.7±4.9yrs) compared to APO (14.0±4.4 yrs), or IJLI (16±6.7yrs).
- Severity of PD (Hoehn and Yahr stage: HY) showed significantly more severe patients in the IJLI group, more moderate patients in the APO group and milder patients in the DBS group (p<0.001).
- Motor symptoms: All three therapies showed significant improvement on motor and motor complication scores measured by UPDRS III and IV or SCOPA-motor and SCOPA-comp (see Table 2).
- Non-Motor Symptoms and Quality of life: The effect of all therapies at FU compared to baseline showed a significant improvement for all total scores as measured by NMSS and PDQ-8 and an improvement for all NMSS domains, most of which significant.

REFERENCES:


CONCLUSIONS:

- This first real life multicentre survey of APO infusion vs. IJLI vs. DBS-STN in advanced PD does not include comparative groups: while the age range of patients selected for advanced therapies was similar across all centres, it appears that DBS-STN group had milder motor PD compared to APO and IJLI therapies, the latter being performed in most severely affected patients.
- All 3 therapies lead to a significant improvement in Motor and Motor complication scores, Non-Motor Symptoms - Total scores and Quality of life measures at 6 months follow up during the observational period.

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