

Advanced or complex Parkinson's: A prospective study of Parkinson's disease greater than 15 years' duration

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OBJECTIVE
Using disease duration (15 years or more) as an anchor, we captured a range of motor and non-motor data in an ongoing naturalistic international collaboration.

BACKGROUND
Advanced Parkinson's disease (APD) remains a controversial concept, and specific characteristics are not well established as data is either generated from retrospective studies or using expert questionnaire surveys such as the Delphi panel (Table 1).

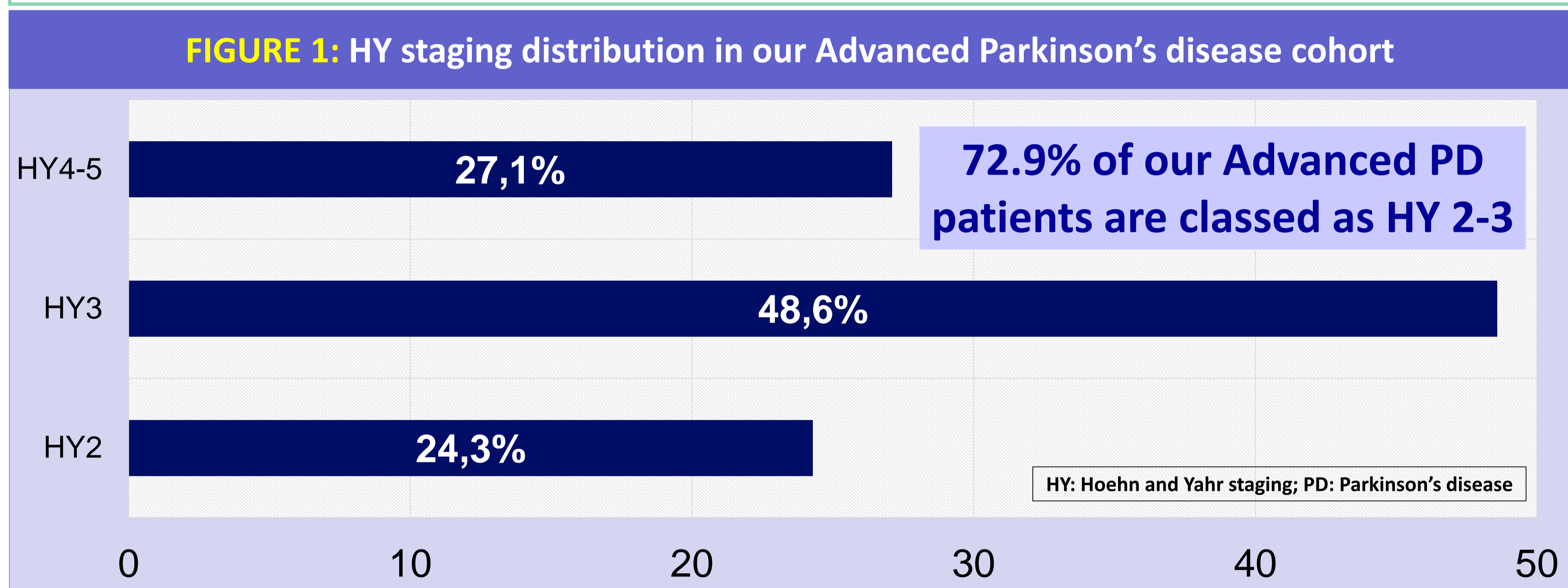
TABLE 1: Why 15 years?	Reference
A) Many studies use 10 years as a marker of "advanced PD"	Breen et al. 2012
B) Data from the Queen Square Brain Bank suggests that the mean time from diagnosis to death is around 14 years	Kempster et al. 2010
C) The Sydney multicenter study used 15 years as a cut off to examine mortality in a selected group of patients entering a dopamine agonist trial	Hely et al. 2005

TABLE 2: Demographics	Mean	SD
Age	67.54	8.16
PD Duration	19.32	4.66
LEDD	1019.97	638.53

METHODS
Motor (SCOPA-Motor, Hoehn Yahr stage (HY)) and Non-motor Symptoms Scale (NMSS) data were collected with other scales in PD patients (disease duration ≥15 years). Specific focus was on APD related symptoms.

TABLE 3: Results	Mean	SD
SCOPA-Motor score	26.03	8.15
➤ Tremor	1.19	0.28
➤ Postural instability	3.78	0.35
➤ Speech	1.14	0.11
➤ Freezing	1.14	0.18
PDSS score	96.35	24.11
➤ Insomnia & sleep quality	16.0	1.36
➤ Daytime somnolence	6.14	0.59
PDQ-8	11.65	5.41
CISI	10.87	3.59
Depression	5.87	3.19
Anxiety	7.24	3.56
HADS	13.11	6.07
NMSS total score	68.3	33.81
➤ NMSS Burden	Very severe	

RESULTS
So far we have recruited, 37 patients of PD duration ≥15 years (mean 19.32 ± standard deviation 4.66 years, Table 2), 48.6% men, 48.6% HY 3, 27% HY stages 4 and 5 (Figure 1). NMSS total score reflected a very severe NMS burden. Mean Parkinson's Disease Sleep Scale (PDSS) and its sub-scores showed borderline abnormal values (Table 3). EQ-5D was impaired in all domains particularly mobility and pain.



PD Parkinson's disease; LEDD levodopa equivalent dose; SCOPA Scale for Outcomes in Parkinson's disease; NMSS non motor symptoms scale; PDSS Parkinson's disease sleep scale; PDQ-8 Parkinson's disease questionnaire (quality of life); CISI Clinical Impression of Severity Index; HADS hospital anxiety and depression scale

CONCLUSIONS

- APD is a complex construct and this first prospective data suggest that 15 or more years' duration does not necessarily imply high scores on motor assessment or HY stage (Figure 1).
- NMS burden is high and is most possibly driven by sleep dysfunction and pain
- Recruitment of larger numbers and comparison with a control group and early PD is now planned to define complex or advanced PD.

CASE STUDY 1

Mrs. BT has had PD for 19 years. She is mobile, independent, with HY stage 3 and levodopa responsive and currently on intrajejunal levodopa infusion therapy. She has mild cognitive impairment but no dementia, moderate NMS burden and is able to compose music at a professional level and performed live concerts in 2015-2016 across Europe. Mrs. BT does not like her condition to be referred to as "advanced PD"

CASE STUDY 2

Mr. MH has had PD for 6 years. He is at HY stage 3 when off and has had falls, a severe burden of NMS, neuropsychiatric complications as well as severe sleep dysfunction. He was not considered advanced PD, based on disease duration and so he was not considered for advanced therapies initially. However, when advanced therapy was initiated with IJLI and Rotigotine transdermal patch he had an excellent motor and non motor response

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