Non motor Symptoms Burden and Motor Staging of Parkinson’s Disease: Evidence for Dichotomy and Non-motor Dominant Subtypes from Analysis of 249 Cases.

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OBJECTIVE
• To address the co-occurrence of the non-motor symptoms burden and motor severity grading of Parkinson’s disease (PD) using the Hoehn and Yahr (HY) staging in a multi-centre study currently with 249 patients.

BACKGROUND
• The concept of non-motor subtypes (with increased burden of specific NMS) in PD is now recognised1,2. 
• The relationship of NMS subtypes, NMS burden and motor staging of PD is not known.
• NMS burden can be divided in mild (1-5), moderate (6-9), severe (10-13) and very severe (≥14) according to NMS Scale3.

METHODS
• Analysis of a global real life PD database (part of the MDS Non-motor PD Study Group initiative) of 249 cases with published NMS burden grading, HY staging and additional comorbidity measures.
• We used mild HY stage as an anchor and in this analysis only mild, severe and very severe NMS Burden are included and correlated.
• For analysis, Kruskal-Wallis (K-W) test was used.
• When the result of the K-W test was significant (p<0.05), comparisons between the groups were explored by means of the Mann-Whitney test.

RESULTS
• Those with severe and very severe NMS burden but mild motor disease (mild HY) compared to those with mild NMS burden, were significantly:
  • younger
  • had higher motor disability
  • had greater sleep problems
  • had greater anxiety symptoms
  • reported greater depression
  • had a worse quality of life

CONCLUSIONS
• In this analysis we found that in spite of severe or very severe NMS burden, 55.6% in the severe NMS burden and 33.6% in the very severe NMS burden group had mild HY.
• The patients often express a range of NMS as their dominant clinical phenotype, supporting the NMS dominant subtypes1,2.
• We also report a worsening of motor scores, sleep and quality of life with worsening NMS burden.

REFERENCES
3. Chaudhuri K.R et al., A proposal for comprehensive gradation of Parkinson’s disease severity combining motor and non motor assessments: meeting the unmet need. PLOS ONE. 2013.8 (2): e57221