Apathy: Clinical Correlates in Parkinson’s Disease Psychosis

Yi-Min Wan1,2,3; Daniel J van Wamelen1,2,4; Valentina Leta1,2; Dhaval Trivedi1,2; Aleksandra M Podlewska1,2; Tih-Shih Lee5; Eng-King Tan6; Dag Aarsland1,2; K Ray Chaudhuri1,2

1Institute of Psychiatry, Psychology and Neuroscience (IoPPN), King’s College London, De Crespigny Park, London, SE5 8AF, UK; 2Parkinson’s Research Centre of Excellence, King’s College Hospital, Denmark Hill, London, SE5 9RZ; 3Tan Tock Seng Hospital, 1 Joo Chiat Road, Singapore 368498; 4Department of Neurology, National University Hospital, 5 Lower Kent Ridge Road, Singapore 119074; 5Tan Tock Seng Hospital, 1 Joo Chiat Road, Singapore 368498; 6Stavanger University Hospital, Stavanger, Norway.

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Objective

To explore the (non)-motor clinical correlates of apathy, as well as its impact, in Parkinson’s disease (PD) psychosis.

Background

Apathy and psychosis are common neuropsychiatric non-motor symptoms (NMS) of Parkinson’s disease (PD), both of which are independently associated with impaired cognition and decreased quality of life. This suggests that they may share common neurobiological substrates.

Results

Overall, 58.8% of patients had apathy (AS score of 14) with a mean AS score of 16 (SD=7.8), overlapping considerably with depression as expected; 38.2% had apathy alone. AS score was significantly associated with the total NMSS burden (p < 0.05), HADS depression (p < 0.001), HADS anxiety (p < 0.03), and ESS (p < 0.008). It was also associated with increasing PDQ-8 single-index scores (p < 0.005). None of the following was associated with AS apathy: current age, age at PD diagnosis, Hoehn and Yahr, disease duration, UPDRS III score, use of selective serotonin reuptake inhibitors (SSRIs), or the MoCA score.

Conclusions

Our findings suggest that apathy can exist independently from depression in PD patients with psychosis; more severe apathy appeared to be associated with high non-motor symptom burden, excessive daytime sleepiness, high anxiety and depression level, as well as with a significantly reduced quality of life. The negative impact of apathy on PD patients mandates the need to further define this common and difficult neuropsychiatric phenomenon in Parkinson’s disease psychosis.

Method

- Data was analysed from an ongoing single-centre cross-sectional psychometric scale development study in PD (Psy-PD; IRAS ID 229095)
- 34 patients with PD psychosis (comprising of minor hallucinations, major hallucinations, and delusions) were assessed with the following instruments:
  - Starkstein’s Apathy Scale (AS)
  - Non-Motor Symptom Scale (NMSS)
  - Hospital Anxiety and Depression Scale (HADS)
  - Epworth Sleepiness Scale (ESS)
  - Montreal Cognitive Assessment (MoCA),
  - Hoehn and Yahr Staging
  - Unified PD Rating (Motor Section; UPDRS III)
  - PD Quality of Life (PDQ-8) Scale

The Starkstein’s Apathy Scale scores were correlated with other clinical characteristics, using Spearman rank correlations.

Figure 1: Comparing the Parkinson’s Quality-of-life (PDQ-8) scores between the group with apathy and the group without apathy in PD psychosis.

Figure 2: Bar chart comparing AS apathy across both gender groups.

Figure 3: Bar chart comparing AS apathy between groups who were depressed (HADS depression ≥ 11) and those who were not.

Figure 4: Correlation scatter plots exploring the associations of demographics (age, duration of disease, years of education), severity of disease (Hoehn and Yahr, LEDD, UPDRS3 motor score), and several other clinical covariates (NMSS total score, Epworth Sleepiness Scale score, HADS depression, HADS anxiety, MoCA total score, PDQ-8 single-index score), with the apathy scale (AS) in this population with PD psychosis.

NMSS Domain 1 (Cognitive Function)
NMSS Domain 2 (Motor Function)
NMSS Domain 3 (Mood/Cognition)
NMSS Domain 4 (Perceptual Disorder)
NMSS Domain 5 (Attention/Memory)
NMSS Domain 6 (Gastrointestinal/Urinary Tract)
NMSS Domain 7 (Sleep)
NMSS Domain 8 (Miscellaneous)
Apathy Present
ApathyAbsent

References:
- Martin et al. 2014. Assessment and Management of Neuropsychiatric Symptoms in Parkinson’s Disease. CNS Drugs, 32, 421-436.