confirmed a marked presynaptic dopaminergic deficit in the basal ganglia for both patients, consistent with degenerative Parkinsonism. Both had asymmetrical parkinsonism (without dystonia or functional signs) and progressed as expected for IPD, with typical motor fluctuations in one patient. Patient B, who was commenced on drug therapy, exhibited a significant Levodopa response consistent with IPD. These cases highlight the potential for IPD to present atypically with rapid symptom evolution in the presence of significant psychological stress.

135 HYPERHIDROSIS AS AN IDENTIFIER IN PARKINSON'S DISEASE SUBTYPING

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10.1136/jnnp-2019-ABN-2.127

Objective To identify associated (non-)motor profiles of Parkinson's disease (PD) patients with hyperhidrosis.
Methods Cross-sectional analysis of participants enrolled in the non-motor Longitudinal International Cohort Study (NILS; UKCRN No: 10084) at the Parkinson's Centre at King's College Hospital (London, UK). Hyperhidrosis responses (yes/no) on question 28 of the Non-Motor Symptom Questionnaire (NMSQ) were used to classify patients with normal sweat function (n=172) and chronic hyperhidrosis (n=56) (analysis 1; n=228). The grade rating NMS scale (NMSS) question 30 scores were then used for severity grading (analysis 2; n=352): absent score 0 (n=267), mild 1–4 (n=49), moderate 5–8 (n=17), and severe 9–12 (n=19).
Results Baseline demographics were similar between groups. Patients with hyperhidrosis exhibited significantly higher NMSS burden (as graded from total score; $p<0.001$). Secondary analyses revealed significantly higher dyskinesia scores, worse quality of life and sleep, and higher anxiety levels in hyperhidrosis patients ($p<0.001$). Tertiary analyses showed higher scores for dysautonomia (orthostatic hypotension, sialorrhea, constipation, urinary urgency and frequency) as well as fatigue and somnolence, among other NMS ($p<0.001$).
Conclusions Chronic hyperhidrosis is associated with a dysautonomia dominant clinical picture combined with fatigue and somnolence in PD patients. These patients also are likely to be dyskinetic. This is the first description of motor and non-motor correlates of hyperhidrosis in PD.

136 MITOCHONDRIAL BIOMARKERS IN PARKINSON'S DISEASE

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10.1136/jnnp-2019-ABN-2.128

Background There is strong evidence of mitochondrial dysfunction in both familial and sporadic Parkinson's disease (PD). A biomarker reliably identifying mitochondrial dysfunction would be particularly important for future stratified/personalized medicine trials in Parkinson's disease. A previous comparison of serum biomarkers in mitochondrial disease established that serum growth differentiation factor 15 (GDF-15) outperforms fibroblast growth factor-21 (FGF-21) and distinguishes patients with mitochondrial diseases from those without them.
Objective To systematically assess GDF-15, FGF-21 and mitochondrial DNA copy number (mtDNA) levels in the serum of patients with sporadic PD and controls to determine their utility as a suitable mitochondrial biomarker panel for PD.
Methods 120 patients with PD and 102 age-matched controls were recruited from a single centre. GDF-15, FGF-21 and mtDNA copy number were quantified using previously established assays.
Results FGF-21 concentrations did not significantly differ between groups. GDF-15 serum levels were significantly raised in late onset PD compared to controls and early onset PD. There was no difference in mtDNA between groups. None of the biomarkers tested showed a significant association with disease following multivariate logistic regression analysis.
Conclusion Serum FGF-21, GDF-15 and blood mtDNA could not accurately differentiate between PD and controls when assessed as candidate biomarkers.

137 USABILITY TESTING OF A NON-MOTOR SYMPTOM APP IN PD

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10.1136/jnnp-2019-ABN-2.129

Background Non-motor symptoms (NMS) are a significant cause of morbidity in Parkinson's, with major impact on quality of life. There is an urgent need to empower people with Parkinson's (PwP) to self-manage NMS, and facilitate timely intervention. A mobile application (NMS Assist) was developed, which enables regular assessment of NMS and provides self-help information in the form of animations.
Aim To evaluate key areas for NMS Assist design improvement.
Method PwP and carers were recruited from local Parkinson's UK groups. NMS Assist user journeys were designed and carried out, filmed with 'Mr Tappy', using 'think aloud' methodology. Satisfaction was evaluated by the System Usability Scale (SUS).
Results 13 Participants were recruited (PwP, n=9 and carers, n=4) with varying age, cognition, disease severity and smartphone experience. Amendment need was identified in three key areas: navigation, content and accessibility. There was no difference in SUS ratings between experienced and never smartphone users. However, the experienced group had a significantly higher error free task completion rate than never users ($p=.01$).
Conclusions Refinements to NMS Assist design have been identified and implemented to improve its usability. The effectiveness of these interventions will be tested in future rounds of usability testing, leading to in-service evaluation.