

for these incongruent sentences, PD patients seem to rely more on the emotional semantic content.

**Conclusion:** These results are in line with studies showing a deficient processing of emotional prosody in PD. Further investigations with PD patients on and off dopaminergic medication are planned and will help to elucidate the role of the dopaminergic system for emotional prosody processing.

#### References

- [1] Schröder C, Möbes J, Schütze M, Szymanowski F, Nager W, Bangert M, Münte TF, Dengler R. Perception of emotional speech in Parkinson's Disease. *Movement Disorders*, in press.

### III.P8 Depression in Parkinson's Disease: overlap of features

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**Introduction:** Motor symptoms form the hallmark of Parkinson's Disease (PD), however features like depression are often present. Depression rating scales used in PD measure affective and somatic symptoms. This could mean that symptoms of depression and PD overlap. At a neurochemical level, dopaminergic dysfunction is found in both depression and PD.

**Objective:** This study investigates to what extent symptoms of depression and PD overlap and if these disorders share a common striatal dopaminergic dysfunction.

**Methods:** Depression was assessed in 46 PD patients, who had a MADRS score <18, and in 18 age-matched healthy controls. Motor severity of all PD patients was rated and 24 PD patients were studied with FDOPA-PET.

**Results:** PD patients had higher depression scores than healthy controls, particularly on somatic items. Physical disability was related to depression, particularly to insomnia and fatigue. Striatal dopaminergic functioning was also associated with depression, specifically with concentration.

**Conclusion:** PD patients scored higher on somatic items of the depression scale than healthy controls. These somatic symptoms of depression can also be symptoms of PD. This overlap may be a reflection of a common striatal dopaminergic dysfunction shared by depression and PD. Thus, when assessing depression in PD one should be aware of confounding factors and focus on affective symptoms.

### III.P9 Depression in Parkinson's Disease: Correlation with UPDRS parameters and comparison with spinocerebellar degeneration

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**Introduction:** Patients with Parkinson's Disease (PD) frequently have psychiatric problems such as depression, at least partly because of disturbances in activities of daily living.

**Objective:** The aim of this study is to elucidate the characteristics of depression in PD and to compare with that in another disabling disease, spinocerebellar degeneration (SCD).

**Methods:** 58 consecutive patients with PD were evaluated with Unified Parkinson's Disease Rating Scale (UPDRS) and Zung Self-Rating Depression Scale (SDS) simultaneously. Possible correlations between items in UPDRS and those in SDS were assessed by factor analysis. Then, 26 patients with SCD were also studied with SDS. We compared each item in SDS between PD and SCD using logistic analysis.

**Results:** The averages of UPDRS and SDS in PD patients were 36.4 and 43.7, respectively. The "Suicidal preoccupation" (item 19) in SDS was categorized the same factor with posture and gait disturbances (items 11–15

and 27–30) in UPDRS rather than the factor with other SDS items. The average of total SDS in SCD patients was 44.9 and was not statistically different from that in PD patients. The "Constipation" (item 8), and "Easy to make decision" (item 16) in SDS were significantly higher values in PD patients than in SCD patients.

**Conclusion:** Depression is a common psychiatric symptom in disabled patients, but might have a distinctive clinical feature in PD.

### III.P10 Validity of three depression rating scales in Australian Parkinson's Disease patients

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**Introduction:** Depression in Parkinson's Disease (PD) is variably reported. Depression assessment instruments vary between studies and are limited by a lack of information regarding their reliability and validity in PD. We investigated the validity and reliability of the geriatric depression scale (GDS-15), Hamilton depression rating scale (HAMD-17) and Hamilton depression inventory (HDI-17) to assess depression in PD.

**Methods:** Seventy-nine patients with idiopathic PD were recruited from Neurology clinics. A reference diagnosis of current depressive disorder was made according to DSM-IV criteria. HAMD-17 was administered at interview. Self-report measures GDS-15 and HDI-17 were mailed to patients and were completed within 2 weeks of interview. Receiver operating characteristic (ROC) curves were drawn and data for sensitivity, specificity, positive (PPV) and negative (NPV) predictive values were calculated for different cut-off points. The optimal cut-off values discriminating between depressed and non-depressed subjects were obtained. Cronbach's alpha and split half correlation coefficients were computed to investigate the internal reliability of the scales.

**Results:** Optimal cut-off values that discriminated between depressed and non-depressed PD patients were 6/7 for GDS-15, 12/13 for HAMD-17 and 13.5/14.0 for HDI-17. All three scales had high specificity and PPV at higher cut-offs and high sensitivity and NPV at lower cut-offs, suggesting that they can be utilized as both screening and diagnostic tools. All three instruments showed high internal reliability.

**Conclusion:** We have demonstrated that GDS-15, HDI-17 and HAMD-17 are valid depression rating scales for use in PD.

### III.P11 The influence of depression on the health-related quality of life in Polish patients with moderate stage of Parkinson's Disease (PD)

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**Objective:** The aim of this study was to evaluate the relationship between depression and the Health-Related Quality of Life (HRQoL) in Polish patients with moderate stage of idiopathic PD.

**Methods:** 66 patients of Movement Disorders Outpatient Clinics in Katowice with moderate stage of PD, according to both Hoehn & Yahr staging (2–3) and motor section of UPDRS (15–65 points), without cognitive impairment, were included into this study. Depression was evaluated with the Beck Depression Inventory (BDI). HRQoL was assessed by the Nottingham Health Profile (NHP) and the Parkinson's Disease Questionnaire (PDQ-39). Cognitive status was assessed using the Mini Mental State Examination (MMSE). The correlation between depression and HRQoL was statistically evaluated.

**Results:** The mean age of patients was 64.8 years ( $\pm 8.8$  years). The mean BDI score of all patients was 15.9 ( $\pm 9.9$ ). Depression was diagnosed in 37 (56%) patients: mild depression in 25 (38%), moderate in 12 (18%).