

Hearing impairment in Parkinson's disease: another non-motor symptom to consider?

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Introduction: Sensorial non-motor symptoms (NMS) in Parkinson's disease (PD), which include pain, olfactory disturbance, visual and hearing impairment (HI), are often underestimated and untreated in clinical practice. In our previous study [1], one important result was PD patients having worse hearing function with respect to controls, in accordance with other works [2].

Objective: The aim of the study was to investigate the possible correlation between NMS burden and quality of life (QoL) with HI in a large cohort of PD patients, by means of pure tone audiometry (PTA) and distortion product otoacoustic emissions (DPOAEs).

Methods: We selected patients with idiopathic PD, without other concomitant neurological diseases, dementia or diagnosis of any audiological/vestibular disease. Demographic and clinical data were collected (UPDRS III, disease duration, H&Y). Then, patients underwent otoscopic examination, audiological testing (PTA and DPOAEs) and questionnaires with NMSS and PDQ39. ANCOVA and partial correlation analysis with Pearson coefficient have been used for statistical analysis (p value<0,05).

Results: We selected two cohort of patients, 59 who performed PTA (31 with hearing threshold >25dB and 28 lower than 25dB) and 64 with low signal-to noise ratio DPOAEs. Patients with HI had similar disease duration, UPDRS III and H&Y with respect to patients without HI, but were different for age and gender, being older and prevalently male. Concerning NMSS and PDQ39, they showed higher scores in every subdomain except for cardiovascular (CV) and sexual function (SF) of NMSS. DPOAE variables showed significant correlation with age and every subdomain of scales, except for NMS-CV, SF and urinary function (U).

Conclusion: This study demonstrated that PD patients with HI have greater burden of NMS and lower related QoL and functioning. We supported the idea of PD being a systemic disease with multidomain involvement [3] and stress the importance of hearing evaluation, even in asymptomatic patients.

References:

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