Definition of chronic pain associated with Parkinson Disease

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Aims: Chronic pains can be associated with a given disease by specific symptoms with impact on further diagnostics and treatment. Since this association is less obvious in Parkinson disease (PD), we developed the PD Pain Classification System (PD-PCS) questionnaire defining an association with the disease before allocating to the respective mechanism [1]. These criteria defining this association were proposed for chronic secondary musculoskeletal pain associated with PD for the ICD-11, recently. Hence, their relevance has not been analyzed so far.

Methods: The PD-PCS has been evaluated in 101 non-demented PD patients during the On-phase in three centers in Switzerland (enlarged database from the validation study). It defines PD-associated pain when 1 out of 4 criteria are met (pain at the beginning or aggravated by the disease, pain aggravated at the Off-phase, pain during choreatic dyskinesias, and/or pain responding to dopaminergic treatment). Then, it hierarchically assigns the pain syndrome to the respective pain category (neuropathic, nociceptive, and nociplastic).

Results: Both, mean pain and mean disease duration were about seven years. 92% of the patients presented with 166 pains (mean number of pains: 1.8). 109 (66%) were PD-related and 57 (34%) were unrelated. Pain improvement with dopaminergic medication and pain at worsening of motor symptoms occurred in 75 and 69%, respectively. 33% of the pains were aggravated by the disease (or occurred at the beginning), while pain during choreatic dyskinesias occurred only in 8%. 43% of the PD-related pains were attributed to the nociceptive, 17% to the nociplastic, and 5% to the neuropathic category.

Conclusion: The improvement with dopaminergic treatment and pain at the off-stage were the most common factors as defined according to experimental observations. According to the PD-PCS questionnaire, pain aggravated by the disease and pains during choreatic dyskinesia are less common but should not be neglected. All four criteria reflect different aspects (although off phases and dopaminergic responses are closely related) and their use should facilitate further classification, diagnostics and treatment for PD-associated and not-PD associated pains [2].

Figure 1
Prevalence of diagnostic criteria for PD-associated chronic pain

Figure 2
Pain categories of PD – associated chronic pain

References
