Is it Just Shoulder Pain or Insidious Foot Step of Parkinson’S Disease? A Mini-review of the Literature

Degirmenci E¹ and Degirmenci Y²

¹Duzce University Faculty of Medicine, Orthopaedics and Traumatology Department, Duzce, Turkey
²Duzce University Faculty of Medicine, Neurology Department, Duzce, Turkey

Corresponding author: Degirmenci Y, Assoc Prof, MD, Duzce University Faculty of Medicine, Neurology Department, Duzce, Turkey, Tel: +90380 542 13 90, 05309338686, E-mail: ydegin@gmail.com

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Abstract
Parkinson's disease (PD) is a chronic, disabling hypokinetic movement disorder with a broad spectrum of symptomatology including motor and non-motor complaints. Since non-motor symptoms of the disease such as musculoskeletal pain including shoulder pain is often underestimated, and is prone to occur during the course of the disease, as well as the prodromal phase of PD, it is important to keep in mind that shoulder pain may be a foot step of an evolving PD, and may need further investigation in terms of PD.

Keywords: Parkinson's disease; Non-motor symptoms; Shoulder pain

Mini Review
Parkinson’s disease (PD) is a chronic, progressive, multisystem neurodegenerative disorder characterized with cardinal motor features including bradykinesia, rigidity, rest tremor and postural instability, as well as the non-motor symptoms such as mood disorders, sleep problems, autonomic disturbances, smell impairments, and musculoskeletal complaints, and pain [1]. Pain is one of the most common musculoskeletal, non-motor symptoms of PD, that can manifest as shoulder and/or back pain. Additionally, shoulder disorders like frozen shoulder, bursitis, and rotator cuff lesions are more likely to occur in patients with PD [1]. The frequency and severity of shoulder pain and disorders are not clearly reported, yet. However, in a previous retrospective study, Stamey et al., reported the frequency of shoulder pain in patients with PD as 11% [3]. Moreover, among these patients, 20% of them stated that, their shoulder pain showed up years before the motor symptoms occurred, which can be taken into account as a preceding symptom of PD [3]. On this aspect, Stamey et al., reported that shoulder pain is most often underestimated or under recognized as a symptom of PD, and commonly misdiagnosed. This ignorance or unawareness of shoulder pain as a possible presenting symptom of PD, when it is asymmetrical in particular, may delay the diagnosis and the treatment of this progressive disease as well [3].

As the imaging techniques such as ultrasound improved over time, and became gradually popular in the evaluation of musculoskeletal pain and its’ etiologies, Koh et al., demonstrated that 22 among 33 PD patients had abnormal ultrasound findings compatible with a tendon tear in the clinically dominant side of PD. Besides, 9 patients had frozen shoulder [4]. Since the number of studies assessing the temporal relationship of shoulder pain and PD are limited, further randomized studies either retrospective or prospective, with large number of PD patients are needed. However, overall review of the literature suggests not only neurologists, but also other clinicians including orthopedic surgeons, physiotherapy specialists to keep in mind that shoulder pain can either be a sensory symptom of a patient who have already got the diagnoses of PD, or can occur in the prodromal phase of the disease, which may encounter years before the diagnosis as an insidious symptom of an evolving PD, and needs a detailed neurological examination [2]. Thus it may help the clinicians of various specialties who deal with shoulder pain to recognize and approach this complaint not only as a musculoskeletal symptom, but also provide insight as a possible non-motor symptom of PD via leading the patient to a detailed neurological examination, and early diagnosis of a possible PD.

References