Abstract

Postural instability is a major cause of disability in patients with Parkinson’s disease and therefore increases their dependence on other people and decreases the quality of life in these patients. This study aimed to determine the prevalence of Postural instability and its onset in patients with Parkinson’s disease. We evaluated 250 Parkinson’s patients who referred to the movement disorder Clinic during 2016. All patient information, including gender, age, onset time of symptoms, as well as the time interval between symptoms start to postural instability were recorded. A total of 41 patients (16.4%) had a Postural instability, there was no significant difference between the two groups with and without instability in the distribution of sex and mean age. The mean age for the onset of symptoms in men and women was 54±11/3 and 50/6±12.2 respectively Which was significantly lower in women than in men (P value: 0.026). Also, the mean time between the onset of symptoms of Parkinson’s disease and the onset of motor instability was 5.2±4.9. This time was 8.2±4.5 in men and 11.5±5.7 in women which is significantly shorter in men than women (P value: 0.047).

In our society, 16.4% of patients with Parkinson’s disease have a motor instability .This outbreak is independent of the variables of gender and age of the patients. According to our study, although women tend to experience signs of Parkinson’s disease earlier than men, the time interval between the onset of the disease manifestation and the onset of postural instability in males was shorter than that of women.

Keywords:
Postural instability, Parkinson's disease, gait imbalance

Conflict of interest: the authors declare no potential conflict of interest.

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Results

The 250 patients known case of Parkinson disease were studied, 150 males (60%) and 100 females (40%). The age range was 35-87 years. The mean age was 62.8±10.5 years. The 41 patients (16.4%), 16 women (39%) and 25 men (61%), out of a total of 250 subjects had postural instability and in the patient without postural instability, there were 84 women (59.8%) and 125 men (40.2 %) and the mean age in patients with and without postural instability was 63.8±10.3 and 62.8±10.5 respectively. There was no significant difference between the two groups with and without instability in the distribution of sex and mean age. The mean age for the onset of symptoms in men and women was 54±11/3 and 50.6±12.2
years respectively Which was significantly lower in women than in men (P-value: 0.026). Also, the mean age for the onset of postural instability in men and women was 60±10.3 and 57±5.7 respectively that there was not significant difference between two groups (P-value: 0.541). Also, the mean time between the onset of symptoms of Parkinson’s disease and the onset of motor instability was 5.2±4.9 years. This time was 8.2 ±4.5 in men and 11.5±5.7 in women which is significantly shorter in men than women (P-value: 0.047).

Discussion

The Postural instability is a common disorder in Parkinson’s disease that can disable the patients. The patients with postural and gait instability have a lower quality of life and more anxiety than other Parkinson patients.5,7 In our study, the prevalence of Postural instability was 16.4%. In study by Blaszczzyk et al., that assessed postural instability in patients with Parkinson’s disease, shows that the sway in patients associated with increased severity of disease and increased tendency to fall.8 In our study, time between the onset of symptoms of Parkinson’s disease and the onset of postural instability is significantly shorter in men than women but the onset of symptoms was significantly lower in women than in men. In another study by Adkin et al. shows that Fear of falling and falling in Parkinson’s patients is higher than healthy people also the patients with postural instability have more fear of falling.9 The Risk of falling, in addition to Postural instability, depends on other factors, such as age, cognitive impairment, freezing gait, poor balance and leg weakness, postural hypotension and drugs.10 The postural instability may appears in the early stages of the Parkinson disease usually exacerbated by the progression of the disease.11 The results of Sydney multi-centre longitudinal study of Parkinson disease shows that in the 2 years follow-up of the patients, 34% have postural instability, in the 10 years follow-up 71% of patients have postural instability and 15 years later, 92% of patients have postural instability.12-14 However, there is some studies that shows, Physical Therapy intervention can improve the postural instability, but this recovery may not be diminished the falling.15 The anticholinergic drugs increase the risk of falling in the old age. Levodopa/Carbidopa Intestinal Gel can improve the postural instability and freezing.16,17 Also in another study Apomorphine that is prescribed continuous subcutaneous, can improved the gait imbalance.18 In meta-analysis study that assess the effects of Pedunculopontine nucleus DBS on Postural instability and gait disorder in patients with Parkinson disease, k.shows PPN DBS may improve the postural instability.19,20

Conclusions

Postural instability has the disabling effect on quality of life of patients with Parkinson disease. Although its precise mechanism is not well-established, its early diagnosis and treatment can help improve their daily activities.

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