

Frequency and Clinical Characteristics of Young Onset Parkinson's Disease at Chandka Medical College Hospital Larkana

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ABSTRACT

Background: One of the most prevalent forms of neurodegenerative illness, Parkinson's is characterised by a loss of postural response, stiffness, and tremor at rest. Young-onset Parkinson's disease occurs between the ages of 21 and 50 on average, however it begins much younger in 3 to 5 percent of people.

Objective: To determine frequency of Young onset Parkinson's disease in Parkinson's patients.

Methodology: This research was conducted from May 2022 and October 2022 at the Chandka Medical College Hospital in Larkana. The World Health Organization's online calculator determined that 73 people would be used for the study. Permission and ethical review forms were filled out. The data was analysed using SPSS. The significance level of 0.05 was considered crucial.

Results: The total number of female patients were 31(42.5%) while male were 42(57.5%) The duration of disease was from 6 months to 22 years. Majority of the patients were in stage 2 and 3 according to Hoehn and Yahr rating scale. The frequency of Young Onset Parkinson's disease in Parkinson's patients is 24.7%. Overall prevalence of Parkinson's disease was seen more in male patients, this even increases in YOPD, (38% VS 62%). Almost all patients in both age categories have bradykinesia and rigidity while 6 patients out of 73 have absent tremors. Loss of postural reflex was seen in 33 patients, every second (51%) patient in idiopathic Parkinson's disease and every third (38%) in YOPD. Dystonia was seen more in YOPD, total 8 patients have dystonia, 4(28%) in YOPD and 4(8%) in Idiopathic Parkinson's disease. Dyskinesia was not seen in YOPD while it was frequent in Idiopathic Parkinson's disease. Family history was positive in total 9 patients, 50% of cases YOPD, while it was positive 5.8% in idiopathic Parkinson's disease.

Conclusion: YOPD is unique subgroup among patients of Parkinson's disease, it burden is much more than ever reported, this calls for shared decision making, the possibility of genetic counseling and appropriate multidisciplinary treatment options.

Keywords: Parkinson's disease, YOPD (Young onset Parkinson's disease, bradykinesia, rigidity, tremor, dystonia, postural reflex. Dyskinesia.

INTRODUCTION

One of the most prevalent neurological conditions is Parkinson's disease¹. The hallmarks of the condition include a lack of postural reflexes, stiffness, and resting tremor. Parkinson's disease becomes quite common as individuals age, with a 2.6% incidence in those aged 85 to 89 years^{2,3}. In the West, the average beginning age is in the early to mid-60s⁴, but in 3-5% of cases, symptoms begin much earlier, in the 40s^{5,6}. There is a greater incidence (10-14%) of young-onset Parkinson's disease in Japan.⁵

Early onset parkinson's disease can be further sub-divided into Juvenile parkinson's disease and young onset parkinson's disease⁷⁻⁸. The development of juvenile PD occurs in those less than 21 years of age, whereas that of YOPD occurs between the ages of 21 and 40 (although other studies consider 50 as the cutoff)⁹.

Dystonia, writer cramp and dopa induced dyskinesia is seen more commonly YOPD^{11,12,13}. Neuropsychiatric complications of dopamine agonists more frequently noticed in this age group especially in males^{14,15}. 50% of females having YOPD deteriorate during pregnancy¹⁶.

METHODOLOGY

This research was conducted from May 2022 and October 2022 at the Chandka Medical College Hospital in Larkana. The participants in this research, whose total number was determined using a WHO calculator, amounted to 73 patients. Non-probabilistic sequential sampling was used for this. Ethical clearance and authorization forms were filled out. Data analysis was performed using SPSS. We used the Chi-squared test. A p-value below 0.05 was considered to be non-null.

Sample Selection: Inclusion Criteria: All patients having age of 21 onwards of either gender with parkinsonian features will be included in this study.

Exclusion Criteria

- Hemochromatosis
- Wilson disease
- Pantothenate kinase associated neurodegeneration
- Hallervorden spatz disease
- Cerebral palsy

HaVing H/O

- Stroke
- Neuroleptic drugs

RESULTS

The total number of female patients were 31(42.5%) while male were 42(57.5%). Duration of disease is from 6 months to 22 years. Majority of the patients were in stage 2 and 3 according to Hoehn and Yahr rating scale. The frequency of Young Onset Parkinson's disease in Parkinson's patients is 24.7%. Overall prevalence of parkinson's disease was seen more in male patients, this even increases in YOPD, (38% VS 62%). Almost all patients in both age categories have bradykinesia and rigidity while 6 patients out of 73 have absent tremors. Loss of postural reflex was seen in 33 patients, every second(51%) patient in idiopathic Parkinson's disease and every third(38%) in YOPD. Dystonia was seen more in YOPD, total 8 patients have dystonia, 4(28%) in YOPD and 4(8%) in Idiopathic Parkinson's disease. Dyskinesia was not seen in YOPD while it was frequent in Idiopathic Parkinson's disease. Family history was positive in total 9 patients, 50% of cases YOPD, while it was positive 5.8% in idiopathic parkinson's disease.

Table 1: age

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | <50 | 18 | 24.7 | 24.7 | 24.7 |
| | >50 | 55 | 75.3 | 75.3 | 100.0 |
| | Total | 73 | 100.0 | 100.0 | |

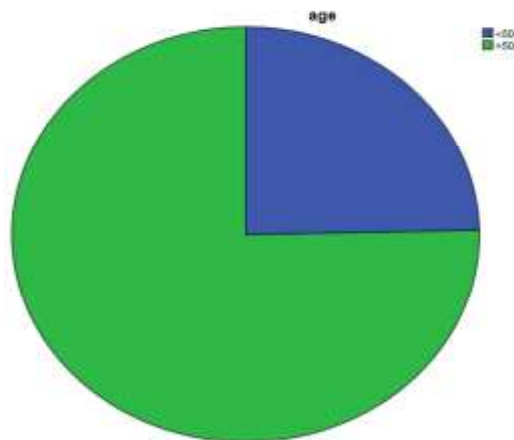


Figure 1:

Table 1: family * age Crosstabulation Count

| | | age | | Total |
|--------|---------|-----|-----|-------|
| | | <50 | >50 | |
| family | absent | 12 | 52 | 64 |
| | present | 6 | 3 | 9 |
| Total | | 18 | 55 | 73 |

Table 2: reflex * age Crosstabulation Count

| | | age | | Total |
|--------|---------|-----|-----|-------|
| | | <50 | >50 | |
| reflex | absent | 13 | 27 | 40 |
| | present | 5 | 28 | 33 |
| Total | | 18 | 55 | 73 |

Table 3: gender * age Crosstabulation Count

| | | age | | Total |
|--------|--------|-----|-----|-------|
| | | <50 | >50 | |
| gender | femal | 0 | 1 | 1 |
| | female | 7 | 23 | 30 |
| | male | 11 | 31 | 42 |
| Total | | 18 | 55 | 73 |

Table 4: dystonia * age Crosstabulation Count

| | | age | | Total |
|----------|---------|-----|-----|-------|
| | | <50 | >50 | |
| dystonia | absent | 14 | 51 | 65 |
| | present | 4 | 4 | 8 |
| Total | | 18 | 55 | 73 |

DISCUSSION

Parkinson's disease often affects those in their 60s and beyond; cases in those under 50 are classified as "young onset."

Parkinson's disease is diagnosed in persons younger than 40 years old very seldom; current estimates suggest that just 2% of the 1,000,000 people with Parkinson's were diagnosed before the age of 40.

While those with a diagnosis of YOPD experience unique difficulties, they may have age-related grounds for optimism and hope.

Possible causes, symptoms, and therapy all change depending on how old a patient is when they get their diagnosis. In most cases, the actual aetiology is unclear, however it tends to run in families.

Pontone suggests that the illness may advance more slowly in younger patients with Parkinson's. Their symptoms are less severe, and they maintain their cognitive and functional abilities for a longer period of time.

When a person is diagnosed with Parkinson's disease in his or her forties or fifties, as opposed to much later in life, there are significant differences in the patient's stage of life. It's hard to prioritise one's personal health and care when one is at the pinnacle of one's job and one's family obligations (such as raising children).

For people dealing with early-onset Parkinson's, the outlook is not completely bleak. For one reason, surgical techniques and medicinal breakthroughs being utilised or being developed to treat Parkinson's disease are more likely to be successful with people who have young-onset Parkinson's disease. Furthermore, people who are younger tend to have less coexisting health issues.

CONCLUSION

Since young people with Parkinson's disease are a distinct population, their increased prevalence necessitates the use of shared decision making, the exploration of genetic counselling, and the development of effective multidisciplinary treatment choices.

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