International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Clinical Profile of Parkinson Disease at a Tertiary Care Centre

Naveen Reddy B[1], Mythri Ambavaram[2]

[1]Post Graduate Resident, Department of Neurology, Guntur Medical College
Corresponding Author Email: *drnaveenreddy22[at]gmail.com*

[2]Dr Ambavaram Mythri, Senior Resident, Department of Neurology, Guntur Medical College
Email: *my3.mbbs[at]gmail.com*

Abstract: ***Background & Objectives: Parkinson disease is a chronic neurodegenerative pathology with unknown etiology and is the second most common neurodegenerative disease after Alzheimer's disease. It is a disease of old age and occurs all over the world. It is characterized clinically by classic triad that include bradykinesia, rigidity and tremor. To the above triad, fourth cardinal motor feature is added- postural abnormality. Non motor symptoms may precede motor symptoms by more than a decade. Aim and Objectives: To study the clinical profile of patients, attending our hospital diagnosed to have Idiopathic Parkinson disease. Methods: It was an observational study in patients of Idiopathic Parkinson disease. Results: In this study of 103 IPD patients in our hospital, mean age of onset was 61 years. It is more common in males than females with ratio of 2.4:1. YOPD accounted for 3.88 %. Family history was present in 3 members-2.9%, PGID/Akinetic rigid subtypes had higher stage of illness even with short duration of illness. Most common non motor symptom is pain- musculoskeletal, followed by constipation insomnia and hypersalivation. Interpretation & conclusions: Most common symptom for presentation is tremor. Many patients were in stage 2 & 2.5 with duration of illness between 2-3 years.***

Keywords: Idiopathic Parkinson disease, H & Y staging, Tremor, YOPD

1. Introduction

Parkinson disease is a chronic neurodegenerative pathology with unknown etiology. It is the second most common neurodegenerative disease after Alzheimer's disease. It is characterized clinically by classic triad that include bradykinesia, rigidity and tremor. To the above triad, fourth cardinal motor feature is added- postural abnormality. Non motor symptoms may precede motor symptoms by more than a decade. There may be an increased incidence in rural compared to urban areas, attributed tentatively to exposure to pesticides. In Asians, the incidence is one-third to one-half that in whites [(1)]

PD is classically an asymmetric disease, remaining so throughout its course. It more commonly starts in the arm, with impaired dexterityon fine tasks, and often with a tremor at rest. A classic rest tremor, particularly if accompanied by a jaw tremor, is a strong pointer to PD.

Diagnosis is clinical. The two main difficulties are to distinguish typical Parkinson disease from the many parkinsonian syndromes caused by other degenerative conditions and by medications or toxins, and to distinguish the Parkinson tremor from other types, especially essential tremor [(2).]

No drug has so far been proven to be neuroprotective. Levodopa remains the most effective symptomatic treatment for PD.

Aim and objectives:
To study the clinical profile of patients, attending our hospital diagnosed to have Idiopathic Parkinson disease, which include age at symptom onset, sex, family history of IPD, type and side of motor symptom at onset, all motor features, stage of disease, associated non motor features, medication, response, side effects and disease progression.

Study population:
All patients diagnosed with Idiopathic Parkinson Disease attending OP/admitted at our hospital, GGH, Guntur. Patients with secondary Parkinsonism, Parkinson plus syndrome were excluded

Duration of Study:
Two years, March 2021 to 2023.

Type of Study:
Observational, hospital based study.

Criteria used for diagnosis of PD:
UK PD Brain Bank Diagnostic Criteria.

Variables recorded:
Age of patient, age at first symptom, duration of illness, first symptom, all motor symptoms, symmetry/asymmetry of motor symptoms. non motor symptoms, stage of disease (Hoehn-Yahr scale), medication being used, duration of medication , side effects of medication.

2. Observations & Results

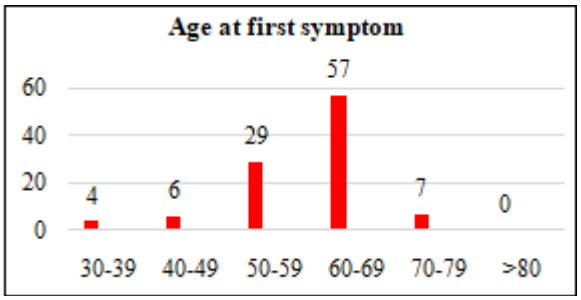
During study period of 2 years, a total of 103 patients with IPD were included in the study.

Table 1: Age distribution

Age group	No. of patients
30-39	2
40-49	5
50-59	16
60-69	56 (54.3%)
70-79	20
>80yrs	4

Table 2: Sex distribution

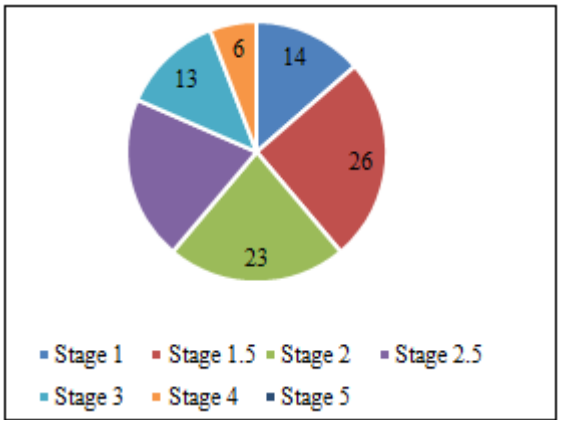
Sex	No. of patients
Female	30 (29.1%)
Male	73 (70.8%)



Graph 1

Table 3: Type of PD

Type	No. of patients
JOPD-Juvenile onset PD	0
YOPD-young onset PD	(4) 3.88%
LOPD-Late onset PD	(99) 96.1%



Graph 2: Hoehn and Yahr Stage (H & Y Stage) of illness

Table 4: Clinical subtypes

Clinical subtype	No. of patients
Tremor Predominant	24
Mixed (Tremor + Rigidity +Bradykinesia)	71(68.9%)
Non-Tremor Predominant (Akinetic – Rigid/PIGD Postural Instability gait disorder)	8

Table 5: Tremor Type distribution

Tremor type	*Alexandre Gironell et al* (n=315)[9]	Present
Pure rest	30%	66%
Mixed rest plus action	69%	32%
Pure action	1%	1%

Table 6: Motor features

Motor feature	No. of patients
Tremor	99
Bradykinesia	91
Postural instability with positive pull test	17
Stooping Posture	43
Shuffling gait	40
Freezing	6
Dystonia	3

Table 7: Non motor features:

Non motor symptom	No. of patients
Pain	42
Constipation	36
Hypersalivation	34
Paraesthesias	23
Urinary urgency/ urge incontinence	15
Memory disturbances	14
Sleep disturbances	34
Hallucinations/ Delusions	5
Orthostatic Hypotension	7

3. Discussion

Age is a main risk factor for Parkinson disease [1]. PD is an age related disease, showing a gradual increase in prevalence beginning after 50, with steep increase after age of 60 years. In a review of *Masoom M. Abbas et al*, IPD prevalence was high in 7th, 8th decade, with few studies showing decline in 8th decade following a peak in 7th decade [5]54% of our patients with IPD are between 60-69 years of age with mean age of 64 years. 55% of our patients had onset of illness between 60-69 years of age with mean age of onset at 61.1 years.

Males were commonly effected than females [1] .Male to female ratio in our hospital was 2.4:1. This is in concordance with literature and studies from South and North India like those by *G.S. Kadakol*, where Male to Female ratio was 1.9:1 [3] and *Dr. Shubana Ashraf et al* where ratio was 2.07:1 [4] respectively

Patient with IPD before age of 40 years. Four of our patients were younger than 40 years which accounts for 3.88%. YOPD accounts for 5-10% of IPD [1,2,6]. In a study by *Kadakol G.S.* in South India, YOPD accounted for 2.9%.

The most common presentation of PD is with rest tremor in one hand [6]. Most common symptom that made our patients seek medical advice was tremor i.e., 88 patients (85%). Very few patients presented for generalised slowness or stiffness i.e. 4 patients (3.8%). Remaining patients presented with other complaints like pain, insomnia, urinary disturbance, or for follow up of CVA, when they are found to have PD 8.73 % of our patients presented with non motor symptoms. Most common non motor symptom for presentation in our study is pain. In a study by *O'Sullivan SS et al*, out of 433 cases of pathologically confirmed cases of IPD, 21 % presented with non motor symptoms of which pain accounted for 2/3 rd cases [7].

Idiopathic Parkinson disease is a clinical diagnosis. CT and MRI are not helpful in making a diagnosis of PD. MRI is generally normal and shows only incidental abnormalities. We have carefully examined and investigated all our YOPD patients and PD_{sym} to rule out causes of atypical parkinsonism and PD plus syndromes.

Almost all our patients were on Levodopa, Carbidopa combination with dopamine agonist, a MAO-B inhibitor and Anti cholinergic. Few patients in early stages were only on a Dopamine agonist with a MAO-B inhibitor. Patients with dyskinesias and freezing were also using Amantadine.

Tremor predominant and mixed subtypes had better response, postural instability and freezing did not respond much to treatment.

4. Conclusion

In this study of 103 IPD patients in our hospital, many people were older with mean age at onset of 61 years. It is more common in males than females with ratio of 2.4:1. YOPD accounted for 3.88 %. Family history was present in 3 members-2.9% (all 3 were younger than 60 and one below 40 years)

Most common symptom for presentation is tremor. Most common type of tremor was rest tremor (Type I) followed by mixed tremor(both rest and action). Most common clinical subtype was tremor predominant. Postural instability and freezing of gait occurred in patients with longer duration of disease.

Many patients were in stage 2 & 2.5 with duration of illness between 2-3 years. PGID/Akinetic rigid subtypes had higher stage of illness even with short duration of illness.

Most common non motor symptom is pain- musculoskeletal, followed by constipation insomnia and hypersalivation.

Drawbacks of our study are small sample size and short duration of study. Longer follow-up is necessary to understand progressive course of the disease and side effects to prolonged medication

References

[1] Adams & Victor's principles of Neurology:11th edition,2019.
[2] *Charles Clarke, John wiley*: Neurology A Queen square text book: 2nd edition .
[3] *Kadakol G.S, Suyamindra S. Kulkarni, Bushan B. Kulkarni, Bhaskar L.V.K.S; Wali GM*: Parkinson's disease in North Karnataka. An epidemiological perspective; Journal of Anthropology 2012, Vol. 8.n.1pages1-4 https://www.researchgate.net/publication/294787664_Parkinson's_disease_in_North_Karnataka_An_epidemiological_perspective
[4] *Dr. Subhana Ashraf; Dr Atil Rasool, Kawoosa, Dr. Shaikh Mohamad Tahir*: Socio-demographic and clinical profile of Parkinsonism patients attending a tertiary care hospital of North India; Journal of Medical Science & Clinical research volume 07 issue 04 April 2019. https://dx.doi.org/10.18535/jmscr/v7i4.55
[5] *Abbas MM, Xu Z, Tan LCS:* Epidemiology of Parkinson's Disease-East Versus West. Mov Disord Clin Pract. 2017 Dec 22;5(1):14-28.. PMID: 30363342; PMCID: PMC6174379. https://pubmed.ncbi.nlm.nih.gov/30363342/
[6] *Pratibha Surathi, Ketan Jhunjhunwala, Ravi Yadav, Pramod Kumar:* Research in Parkinson Disease in India; A review Annuals of Indian Academy of Neurology, 2016 Jan-March 19(1) 9-20.
[7] Bradley's Neurology in clinical practice: 7th edition
[8] *Sean S O'Sullivan[1], David R Williams, David A Gallagher, Luke A Massey, Laura Silveira-Moriyama, Andrew J Lees;* Non motor symptoms as presenting complaints in Parkinson's Disease; A clinicopathological study.: Mov Disord 2008 Jan;23(1):101-6. https://doi.org/10.1002/mds.21813https://dx.doi.org/10.4103%2F0972-2327.16771
[9] *Alexandre Gironell, Berta Pascual-Sedano, Ignacio Aracil, Juan Marín-Lahoz, Javier Pagonabarraga, and Jaime Kulisevsky*: Tremor types in Parkinson Disease: A descriptive study using a NewClassification:ParkinsonsDis:2018:2018:4327597 https://dx.doi.org/10.1155%2F2018%2F4327597