ORIGINAL ARTICLE

Two Years Audit of Parkinsonism Patients at Royal Commission Hospital Yanbu, Kingdom of Saudi Arabia

SAJJAD NASEER, MUHAMMAD AZHAR SHAH, MUHAMMAD ANWAR
Khurshid Akbar, Zafar Iqbal, S. N. Siddiqui
Department of Internal Medicine, Akhtar Saeed Medical and Dental College, Bahria Town, Lahore

ABSTRACT

Introduction: *Parkinson`s disease (PD) is the second most common neurodegenerative condition affecting patients. It is broadly classified as `movement disorder' with a variety of clinical features, including bradykinesia, rigidity and tremor. PD is better defined as multisystem neurodengerative disorder causing a large number of motor and non-motor complications. In this study we described our experience regarding follow up parkinsonism patients.*

Objectives: *To determine clinical outcome in patients of Parkinsonism in our setup.*

Materials and Methods: *This was a retrospective as well as follow up of new patients of Parkinson`s disease in the department of neurology at Royal Commission hospital Yanbu – one of the biggest industrial city of Kingdom of Saudi Arabia. Duration of study was two years; from January 2011 to December 2012. This study included 50 patients with diagnosed case of Parkinsonism and newly diagnosed cases.*

Results: *The age range was 40 – 110 years; there were 4 patients (8%) of age range 40 – 41 years, 2 patients (4%) of age range 46 – 50 years, one patient (2%), 7 patients (14%) of age range 61 – 65 years, 11 patients (22%) of age range 66 – 70 years, 2 patients (4%) of age range 86 – 90 years and one patient (2%) was of 110 years. The last patient mentioned has a daughter who was 80 years of age and was included in the study. Around 45 patients were diagnosed for the first time as case of Parkinsonism and these were started on management / treatment with good clinical improvement.*

Conclusions: *Not all the patients need to commence treatment at time of diagnosis, but drugs should be started when symptoms begin to interfere with daily life. We found that all such patients when prescribed treatments showed excellent improvement in terms of activities of daily life.*

Key Words: *Parkinsonism, idiopathic parkinsonism, Parkinson`s disease (PD)*

Abbreviations: *PD = Parkinson`s disease.*

INTRODUCTION

Parkinsonism is a syndrome characterized by the triad of tremor, rigidity, postural instability and bradykinesia. In terms of management, patient, patients can be divided into toe groups: those with Parkinson's disease (who respond well to levodopa) and those atypical Parkinsonism (who do not). In atypical parkinsonian syndromes, there is loss of striatal neurons in addition to nigral neurons. The relative involvement of each region in individual patients and diseases determines the degree of dopa responsiveness. The study was carried to see 50 patients of Parkinsonism.

The study was conducted at neurology department Royal Commission hospital Yanbu, Kingdom of Saudi Arabia from the year 2010 to 2012. This hospital is a tertiary care hospital that has a well established department of neurology. The aim of the study was to see symptomology of the disease, its progression and use of medications for the disease. The diagnosis was

based on history, clinical examination, imaging and family history of the disease.

OBJECTIVE

The objective of the study was to see the clinical presentation, family history, treatment and outcome of management of patients of Parkinsonism following in the neurology OPD of the Royal commission hospital. We re-evaluated these patients and included the new patients in the study.

MATERIAL AND METHODS

Study Design

Retrospective and prospective study.

Duration of Study

From 1st of January 2010 to 31st of December 2012.

Setting

Department of neurology Royal Commission hospital Yanbu, Kingdom of Saudi Arabia.

Sample Size

We collected 50 patients; 5 patients were already following in the neurology OPD and 45 patients were diagnosed for the first time.

Sample selection

Inclusion Criteria

- ✓ Patients of both sexes were selected.
- ✓ All young and old patients were selected from age 40 years onward.

Exclusion Criteria

- ✓ Patients of cerebral tumors and parkinsonism Plus were excluded from the study.
- ✓ Patients who had parkinsonism secondary to the use of antipsychotics were excluded from the study.

DATA COLLECTION

Fifty patients fulfilling the inclusion criteria were enrolled through OPD department of neurology, Royal commission hospital Yanbu, KSA. An informed consent was obtained before imaging. The demographic information like name, age, sex, and address were recorded. No ethical issues were involved.

Table 1: *Age Range.*

Age Range (Years)	No. of Patients
40 – 41	4
46 – 50	2
56 – 60	1
61 – 65	7
66 – 70	11
71 – 75	10
56 – 60	6
81 – 85	-
86 – 90	2
> 90	1

As we shall see that we found lots of families with Parkinsonism; we had eight patients with strong family history of Parkinsonism. Out of these in one family there were three brothers and all of these had Parkinsonism. Most of these family members were included in the study and all of these were called in neurology OPD for management. The following table shows both groups showing number patients in either group.

Table 2: *Family History.*

1.	No family history of Parkinsonism	33
2.	Patients with family history of Parkinsonism	17

The patients were prescribed all groups of medicines with variable response. These are shown in the following table:

The following medications were used for the treatment of patients:

1. Sinemet (levodopa 250 / carbidopa 25).
2. Anticholinergics: Artan/ Hexidil (trihexyphenidyl) and Kemadrin (procyclidine).
3. Dopamine agonists: amantidine.
4. Surgical referral.

Table 3: *Treatment Given.*

1.	Dopamine (levodopa / carbidopa)	26
2.	Dopamine agonists	6
3.	Anticholinergics	37
4.	No treatment	7

While carrying out this study we carried out brain imaging in all patients, we tried to carry out brain imaging in all patients. This is shown in following table:

Table 4: *No. of Patients with Cerebral Imaging.*

1.	Normal CT or MRI	33
2.	Abnormal CT / MRI	12
3.	No imaging done	5

Table 5:

Total number of patients	50
Male patients	34
Female patients	16

Table 6: *Parkinsonism diagnostic criteria.*

1.	Normal CT or MRI
2.	Bradykinesia
3.	Rigidity
4.	Loss of postural reflexes
5.	Flexed posture
6.	Freezing (motor blocks)
Definite: at least two of these features must be present, one of them being 1 or 2	
Probable: feature 1 or 2 alone is present	
Possible: at least two of features 3 to 6 must be present	

DISCUSSION

Parkinsonism is syndrome manifested by a combination of the following six cardinal features:
Tremor – at rest, rigidity, bradykinesia, loss of postural reflexes, flexed posture. Freezing (motor block).

A combination of these signs is used clinically define definite, probable, and possible Parkinsonism (table 6).

- ❖ Parkinson's disease affects over 1% of all people over 50 years of age.
- ❖ 5 – 10% of the patients with Parkinson`s disease present at age less 40 years of age.
- ❖ There is a similar incidence in males and females.
- ❖ All ethnic groups are equally affected.

The diagnosis is clinical. Investigations are required only if there is doubt about the diagnosis. MRI is more sensitive than CT scan, for example detecting infarcts or focal gliosis or atrophy (as occurs, for example, in the putamen in multiple system atrophy).

The way that patient are given their diagnosis can have a lasting influence on their attitude to their illness and subsequent quality of life. It is useful to point out that:

- Parkinson's disease progresses slowly over many years, in younger patients over decade.
- Although there is no cure, there is very effective and long – lasting treatment to control the symptoms.
- Because the disease advances slowly, there will be time to make any necessary adjustments to the illness.
- Progression is very variable, and many patients retain normal or near-normal functions for many year.

Younger patients often have great difficulty in coming to terms with the diagnosis; there is little point in prescribing drugs until the patient have accepted the diagnosis and wants treatment.

The aim of initial treatment is to reduce motor disability while minimizing the risk of medium – to long – term complications of therapy. No treatment has been shown to slow disease progression. Conversely, no drug (including levodopa) has been shown worsen disease progression. This is important to emphasize because many patients have concerned about potential drug toxicity based on theoretical and laboratory data obtained from the internet and other sources.

Management can be divided into three stages;

- Early stage of good symptom control.
- Mid – stage, when the 'honeymoon' ends and problems such as motor fluctuations and dyskinesias appear.

- Late – stage, when problems resistant to levodopa such as falls and dementia emerge.

In our study we have a total of 50 patients and these patients followed in neurology department at Royal commission hospital Yanbu from January 2012 to December 2012. The age range is 40 – 91 years. Out of these 34 are males and 16 are females. Among these patients, 17 had family history of Parkinsonism and 33 patients did not have family history of the disease. All the patients have rest tremors (from very minor to gross shaking of hands) and bradykinesia. The occurrence of postural instability and other features was variable. All of these patients had imaging; CT / MRI was normal in 33 patients and it was abnormal in 17 – the abnormalities being multiple infarcts and cerebral atrophy. Out of 50 patients, 26 were prescribed levodopa, 6 were taking anticholinergics and 7 patients did not have treatment (these were not started any treatment or they did not accept treatment). Many patients who did not receive treatment prior to presentation were started on either of three groups of medicines (anticholingergics, dopamine agonists, and levodopa). These patients showed good improvement following treatment.

All the patients were referred for occupational therapy.

CONCLUSION

We found that all of the patients who were started on drugs for Parkinson`s disease started improving in terms of daily life and care giving. Those who were already diagnosed, they got their medications adjusted as well and started improving – both subjective and objective.

Address for Correspondence
Dr. Sajjad Naseer, MBBS, FAAN, FCPS (Neurology), MRCP (Ireland), MRCP (UK), FRCP, American Board of Electrodiagnostic Medicine and Neuromuscular Disease
Associate professor, Department of Internal Medicine, Akhtar Saeed Medical and Dental College, Bahria Town, Lahore. E-mail: alhashmi63@gmail.com

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AUTHORS DATA

Name	Post	Institution	E-mail
Dr. Sajjad Naseer	Associate Professor	Department of Internal Medicine, Akhtar Saeed Medical and Dental College, Bahria Town, Lahore	alhashmi63@gmail.com
Dr. M. Azhar Shah			m_a_s100@yahoo.com
Dr. Khurshid Akbar	Consultant physician		khurshidakbar@hotmail.com
Prof. Zafar Iqbal	Professor		drzafarch@hotmail.com
Dr. S. N. Siddique			
Dr. M. Anwar	Associate Prof. Neurosurgery	Department of Neurosurgery, LGH, Lahore	dranwarchaudary@yahoo.com