Case Report

Idiopathic Parkinson's Disease

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Abstract

Idiopathic Parkinson's Disease (IPD) is the most common form of Parkinsonism, characterized by progressive degeneration of dopaminergic neurons in the substantia nigra of the brain. The exact etiology remains unknown, although a combination of genetic and environmental factors is implicated. clinically, IPD manifests with motor symptoms such as bradykinesia, resting tremor, rigidity, and postural instability, along with a range of non-motor symptoms including depression, sleep disturbances, and autonomic dysfunction. Diagnosis is primarily clinical, supported by neuroimaging and response to dopaminergic therapy. Levodopa remains the gold standard of treatment, although long-term use is associated with motor complications. Recent advances in understanding the pathophysiology of IPD have led to the development of newer pharmacologic and surgical interventions, including deep brain stimulation. Despite these advancements, IPD remains a progressive and incurable disease, highlighting the need for continued research into disease-modifying therapies and improved diagnostic biomarkers.

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1. Background

Idiopathic Parkinson's Disease (IPD) is a progressive neurodegenerative disorder characterized by the loss of dopaminergic neurons in the substantia nigra. It is the second most common neurodegenerative disorder after Alzheimer's disease, affecting approximately 1% of the population over 60 years old. The clinical presentation of IPD typically includes motor symptoms such as tremors, rigidity, bradykinesia, and postural instability, as well as non-motor symptoms such as cognitive impairment, mood disorders, and autonomic dysfunction. Despite significant advances in understanding the pathophysiology of IPD, the exact cause remains unknown, and current treatments are primarily focused on managing symptoms rather than halting disease progression.

2. Case presentation

A 68-year-old male presented with a 3-year history of progressive motor symptoms, characterized by a resting tremor in the right hand that gradually worsened over time, accompanied by significant bradykinesia, manifesting as difficulty initiating movements and performing daily activities with decreased speed and amplitude. He also reported frequent episodes of postural instability, resulting in imbalance, and occasional freezing of gait, which significantly impacted his functional mobility and quality of life. Notably, his medical history was unremarkable for any prior head trauma, cerebrovascular events, or exposure to neurotoxic substances that could potentially contribute to his symptoms.

Social History

He does not have any social history of cigarette smoking, alcohol addiction.

Allergies

No known medicine or environmental allergies

Past Medical History

Hypertension for 10 years, well controlled with medication with Amlodipine 5 mg for hypertension. He was on regular treatment

Family History

No family history of similar neurological disorders.

2.1 Physical Examination

Vital signs Temp: 98.6 degree Fahrenheit. HR:74/min, RR:24/min BP 130/80 mmHg Spo2 :98%

A: Patient vocalizing, NO obstruction in airways

B: Spontaneous, Bilateral depth adequate, RR:16/min

C: All peripheral pulse present.HR 74/min BP 130/80 mm Hg, No pallor, icterus, or pedal edema

D: Neurological Examination:

- Cognition: Intact, MMSE score: 28/30
- Cranial Nerves: Normal
- Motor System:
- Resting tremor (4-6 Hz) in the right upper limb
- Bradykinesia with slow finger tapping and hand movements
- Cogwheel rigidity in both upper limbs
- Gait:
- Shuffling gait with reduced arm swing
- Difficulty in turning, occasional freezing episodes
- Postural Instability: Positive pull test (falls after a slight backward pull)

E: No pressure injury and no other external injury noted.

3. Investigations

POCUS: Good LV contractility

Bilateral medical renal disease with left cortical cyst

Markable investigations

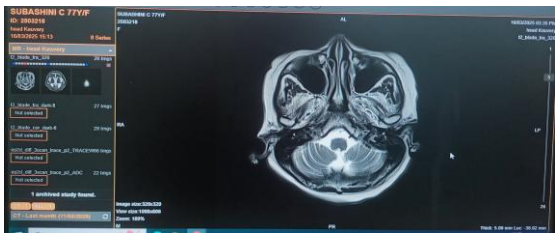
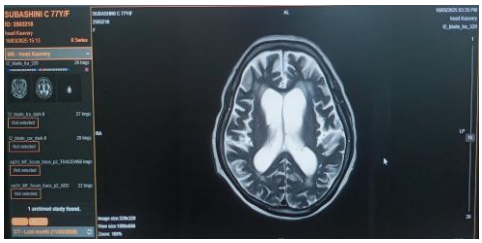
- Sodium - 137 mmol/ dl
- Potassium - 3.2 mmol/L
- TSH - 1.37
- Urea - 21.40
- Creatinine - 1.38 mg/ dl to 0.96mg/dl
- Hb - 10.5
- PCV - 32.3
- Platelet Count - 263000 cells/µl
- CRP - 23.19
- CA++ - 1.20

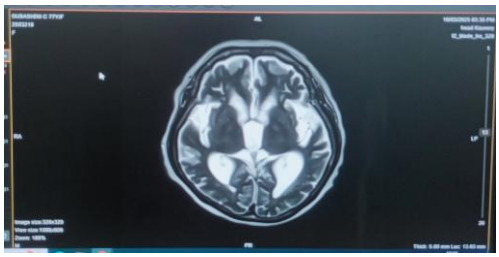
3.1 Imaging examination

CT Brain - Ventriculomegaly with features of normal pressure hydrocephalus

Age related cerebral atrophy

MRI Brain - Age related cerebral atrophy, Small vessels ischemic disease



Home BP monitor showed fall in BP, GRBS - 176 mg/dl.

During hospital evaluation, patient was conscious, oriented, afebrile. Relevant blood investigations were done which showed normal counts with elevated CRP. Serum creatinine was elevated. Urine routine analysis done which showed pus cells 8-10. Serology was negative. Blood culture showed Enterococcus faecalis infection. Urine culture showed Morganella/Providencia species infection. Cardiologist consultation obtained for cardiac evaluation, ECHO done and orders were carried out. Neuro Physician opinion obtained for dilated ventricles / atrophy (+) and advice followed. She was treated with IV fluids, IV antibiotics, antipyretics, PPI, steroids, potassium supplements and other supportive measures were given.

4. Management

4.1 Pharmacological

- Levodopa/Carbidopa: Started at 100/25 mg TID, titrated gradually.

- Dopamine Agonist: Pramipexole 0.25 mg once daily added for adjunct therapy.
- MAO-B Inhibitor: Selegiline 5 mg daily for neuroprotection.

Treatment

Drugs	Dose	Frequency
Inj. Piptaz	4.5mg	TDS
Thiyamin	100mg	TDS
Inj. Pantocid	40mg	TDS
Tab. Syndopa	275	1-1-1/2-1/2
Tab. Ropark	0.5mg	2-2-2-2
Tab. Trihexyphenidyl	2mg	OD
Tab. Clonazepam	2mg	OD
Tab. Wysolone	10mg	OD
Tab. Shelcal	500mg	OD

4.2 Non-Pharmacological

- Physiotherapy: To improve mobility and reduce falls.
- Speech Therapy: For hypophonia and swallowing issues.
- Psychological Counseling: To address anxiety and depression.

4.3 Follow up treatment

During discharge time he was on

- Tab. Shelcal - 500MG
- Syp. Potassium Chloride
- Tab. Augmentin 625 MG
- Biopiper Tz 4.5 Gm
- Thiamin 2 Ml

5. Skilled Nursing Care in Idiopathic Parkinson's Disease

Skilled nursing care plays a critical role in managing the complex medical, physical, and cognitive needs associated with the progression of Parkinson's.

- Timely administration of dopaminergic and adjunctive medications is essential to control motor symptoms and prevent "off" periods.
- Physical therapy is provided to maintain mobility, balance, and strength. Skilled nursing staff assist with transfers, walking aids, and exercises to reduce fall risk.
- Swallowing difficulties (dysphagia) are common. Nurses monitor for aspiration risk and may implement diet modifications or feeding assistance.
- Patients may experience dementia, depression, or anxiety. Skilled nursing care involves monitoring mental status and coordinating psychiatric or neurological support.
- Autonomic dysfunction often causes constipation and urinary incontinence, which are managed through toileting schedules, medications, and hygiene support.
- Due to reduced mobility, regular repositioning and skin assessments are necessary.

- Care is individualized and interdisciplinary, involving nurses, physicians, therapists, dietitians, and social workers. The goal is to enhance quality of life, maintain function as long as possible, and provide comfort and dignity throughout disease progression.

6. Conclusion

Idiopathic Parkinson's Disease is a progressive neurodegenerative disorder that profoundly impacts both motor and non-motor functions. As the disease advances, patients often require comprehensive and coordinated skilled nursing care to manage complex symptoms, maintain functional independence, and ensure safety and quality of life.

Skilled nursing interventions—ranging from medication administration to mobility support and cognitive care—are essential in addressing the evolving needs of these individuals. A multidisciplinary approach, with a focus on individualized care and dignity, remains central to optimizing outcomes and supporting patients and their families throughout the disease course.